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CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

Sanitary Condition of the City

DURING THE YEAR

1915.

Printed by Easey & Best, 146 Pilgrim Street, Newcastle-upon-Tyne.

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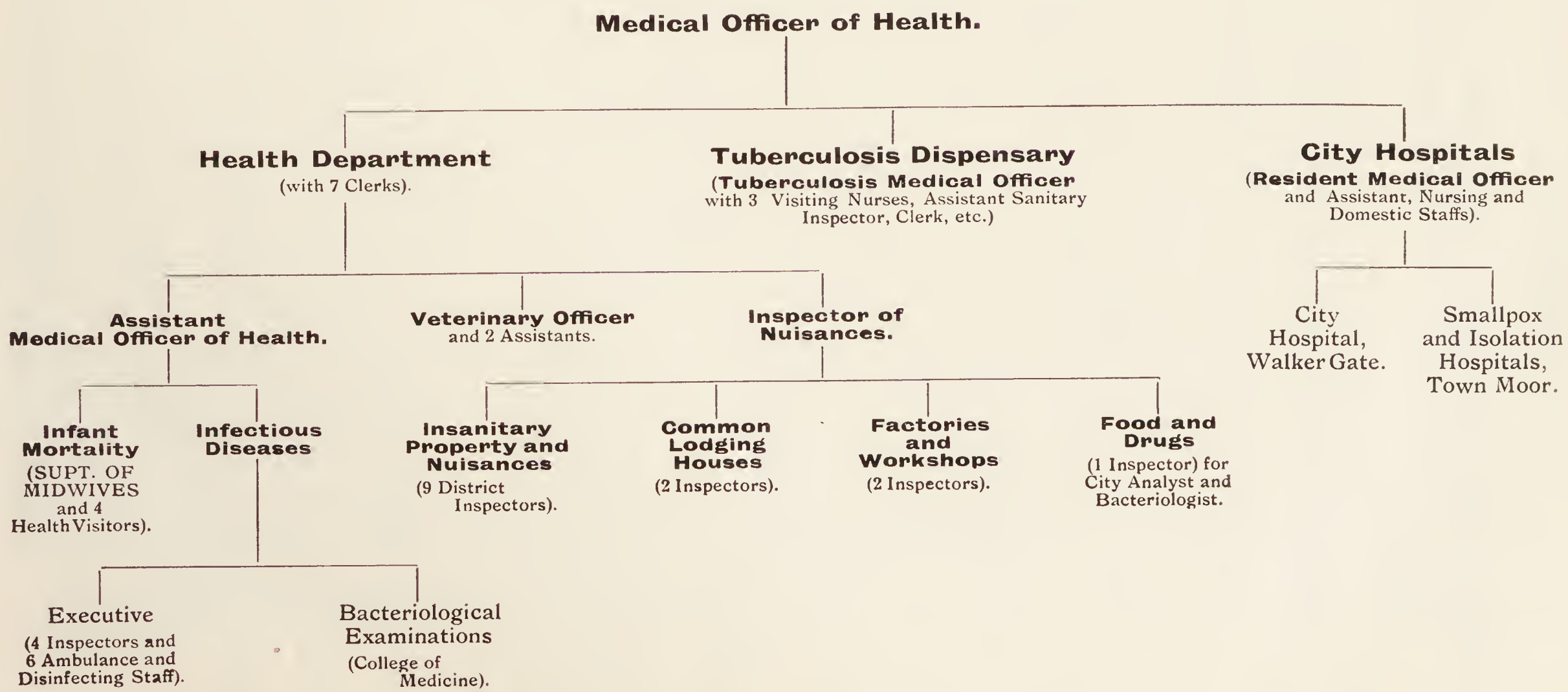
SANITARY COMMITTEE.

Councillor C. T. Stableforth, J.P., Chairman.
,, David Adams, J.P., Vice-Chairman.
The Lord Mayor (Councillor George Lunn, J.P.).
Alderman Sir Joseph Baxter Ellis, J.P.
,, Adam Wilson, J.P., L.R.C.P.
,, C. C. Elliott.
,, Robert Flowers.
,, G. G. Archibald.
,, W. J. Sanderson, J.P.

Councillor	Walter Lee, J.P.	Councillor	Edward Lonsdale.
,,	Thos. Matthewson.	,,	Wm. Tiplady, L.R.C.P.
,,	W. E. Harker.	,,	W. O. Weddle.
,,	Wm. Beckett.	,,	Thos. Cruddis.
,,	Alex. Wilkie, M.P., J.P.	,,	John Chapman.
,,	Jas. Smith.	,,	R. P. Dawson, J.P., M.B.
,,	John Grantham.	,,	Adam Tindall.
,,	J. R. Mason, L.R.C.P.	,,	Jno. Barker.
,,	J. W. Telford.		

TABLE SHEWING THE VARIOUS SECTIONS OF THE SANITARY COMMITTEE'S WORK WHICH IS UNDER THE DIRECT CHARGE OF THE MEDICAL OFFICER OF HEALTH.



STAFF.

HAROLD KERR, M.D., D.P.H., Medical Officer of Health and Medical Superintendent of the City Hospitals for Infectious Diseases.

S. J. CLEGG, M.D., D.P.H., (Assistant Medical Officer of Health and Resident Medical Officer, City Hospitals for Infectious Diseases).

WM. HUDSPETH, Inspector of Nuisances, and Chief Sanitary Inspector.
CHRIS. RAIMES, Chief Assistant Inspector of Nuisances, and Assistant Workshops Inspector.
WM. CATTLIFF, Assistant Inspector under the Food and Drugs Acts.
ISAAC CLARK, Assistant Workshops Inspector.
E. W. SCOTT, JAS. MCNICHOLL, JAS. HUNTER, GEO. HARDIE, W. F. BACON, JAS. MCKENDRY, RICHARD REDPATH, ADAM FLOCKHART, L. W. JOHNSON, District Inspectors.
W. E. PERKINS, ARTHUR ROWE, Assistant Inspectors of Common Lodging Houses.
WM. BEAN, WM. GRAY, C. R. CRAIG, THOMAS HESLOP, Infectious Diseases Inspectors.
JAS. ROBSON, JAS. BRUCE, J. R. CRAGIE, J. W. ROBSON, T. W. WHELANS, Ambulance Drivers and Disinfectors.

WM. GILLENDER, WM. MILNE, GEO. CUTHBERTSON,* ALFD. HEDLEY,* ALEC. WALKER,* JOS. GILHESPY, WM. COCKBURN, Clerks in the Health Department.
(Those marked * hold the Sanitary Inspector's Certificate of the Royal Sanitary Institute).

THOS. PARKER, F.R.C.V.S., Veterinary Officer and Inspector of Provisions.
THOS. DODDS, J. M. ANDERSON, Assistant Inspectors of Provisions.

ELIA RENAUD, Superintendent of Midwives (Resigned Nov. 15th).
GEORGINA B. CAMERON, Chief Health Visitor and Superintendent of Midwives (Appointed Nov. 15th, commenced duties Jan. 1st, 1916).
DOROTHY STRONG, K. M. MILBURN, M. I. F ROWELL, GRETTA GIBNEY, Health Visitors.

W. H. DICKINSON, M.B., CH.B., D.P.H., Tuberculosis Medical Officer.
MARGT. BROWN, M. L. HUTCHINSON, HELEN CURRY, Tuberculosis Visiting Nurses.
R. T. MORRISON, Assistant Inspector for Tuberculosis.
GEO. MAGNAY, Clerk for Tuberculosis.

L. L. FYFE, M.B., CH.B., D.P.H., Resident Medical Assistant, City Hospitals for Infectious Diseases.

H. E. COOK, Matron, City Hospitals for Infectious Diseases.
Sisters, Nurses, Servants.
MARGARET E. MACLEOD, Dispenser.
JAS. COCKBURN, Engineer.
JOHN HARRINGTON, Lodge Keeper, City Hospital, Walker Gate.
Firemen; Window Cleaner.
JOS. W. and JANE STEPHENSON, JAS. and MARY GREGAN, Caretakers at Smallpox and Isolation Hospitals.

STAFF—*Continued.*

Of the foregoing, the following are now

SERVING WITH THE COLOURS.

S. J. Clegg, Captain R.A.M.C., and Officer Commanding Sanitary Section. 1st Northumbrian Division (Terr.).

L. L. Fyfe, Lieutenant R.A.M.C.

R. A. Hooper (Temporary Resident Medical Assistant, City Hospital), Lieut., R.A.M.C.

Jas. Hunter, Staff Sergeant, Sanitary Section, 1st N.D. (T.).

Richard Redpath, Sergt., 2nd British Red Cross Hospital, St. John Ambulance Brigade (Invalided home on account of ill-health, after a year's service, Nov. 6th.)

Adam Flockhart, Company Sergt.-Major, 2nd N.D. Royal Engineers (T.).

W. E. Perkins, Corporal, R.A.M.C., San. Sect., 1st N.D. (T.).

Wm. Gray, Corporal, R.A.M.C., 23rd San. Sect.

Arthur Rowe, Sergt., Pioneer Company, 18th Batt. Northd. Fusiliers.

Alfred Hedley, Sergt., R.A.M.C., 1st N.D. (T.).

A. M. Walker, Private R.A.M.C., 67th Divisional Sanitary Section.

Joseph Gilhespy, Private, 18th Batt. North'd. Fusiliers (Pioneers).

Frank Harrington, Private, Coldstream Guards.

T. M. Whelans, Private, 17th Batt. D.L.I.

J. W. Robson, Private, A.S.C. Remount Depôt.

Mary Coulson (Assistant Matron), J. H. Main (Home Sister), L. D. Godtschailk (Night Supt.), and Margaret Nelson (Ward Sister), all of the City Hospital, are serving as Territorial Association Sisters or Nurses in Military Hospitals.

TEMPORARY STAFF, ineligible by age or otherwise for military service, have been engaged :—

Temporary Inspectors.—Wm. Dover, Alex. Kirton, J. S. B. Hutchinson,* R. B. Paterson, T. S. Magnay, John Liddle.

* Since accepted for Service.

Temporary Ambulance and Disinfecting Staff.—Chas. Garraway, Thos. Moore, Jno. Taylor.

Temporary Clerks.—Norman Dixon, Edith Looney.

To Councillor CHARLES T. STABLEFORTH, J.P., Chairman of the Sanitary Committee of the Corporation of Newcastle-upon-Tyne.

SIR,

Herewith I beg to submit to you my Report upon the health of the City during the year 1915.

The date of issue is again considerably later than is usual or desirable owing to the many modifications the department has undergone, both in duties and in staff, consequent upon the war, but there has been no falling off in vigilance or activity in dealing with all matters of immediate moment or urgency.

With the exception of an epidemic of *measles*, commencing in the autumn of 1914 and continuing into May of the year under report, 1915 was a comparatively healthy year, though the death rate was somewhat higher than in recent years before the war. Possibly the cold damp weather of the first and last quarters, and the long continuance of cold winds, together with the general increase of stress and strain, helped to bring about the higher mortality from *diseases of the circulatory and respiratory systems*. These three groups alone accounted for practically the entire difference between pre-war rates and those of 1915. *Infantile mortality*, while heavier (owing mainly to deaths

from measles) than recent pre-war rates, was somewhat less than in 1914, and showed a gratifying decline in that proportion of it due to *diarrhœa*. There was a considerable falling off in the number of deaths ascribed to *old age*.

The estimated **Population** at the middle of the year, as revised by the Registrar General, was 278,107. This figure is probably some thousands below the actual population owing to the recent influx of munition workers, and to the movements of troops. The mortality rates, calculated upon this estimate of population, can only be regarded, therefore, as of doubtful accuracy.

The number of **Marriages** in the City during the year was 3,264, as compared with 2,717 in 1914, and 2,414 in 1913.

The **Birth Rate** was the same as in 1914, viz., 27·8 per 1,000 population, as compared with 27·5 in 1913, 26·7 in 1912, and 26·5 in 1911.

The **Death Rate** (among civilians only) from all causes was the same as in the previous year, viz., 17·2 per 1,000 population, as compared with 15·5 in 1913, and 14·3 (the lowest recorded) in 1912.

The **Infantile Mortality Rate** was equivalent to 133 deaths of infants under one year of age per 1,000 births, as compared with 137 in 1914, 122 in 1913, and 101 (the lowest recorded) in 1912.

While there is no doubt that recent efforts, both educative and in the direction of progressive improvement of the sanitary conditions under which the people live, are exerting a highly encouraging effect upon many of the main causes of these early deaths, notably the diseases due to malnutrition, such as diarrhœa (and we may anticipate still further improvement in regard to the fatality of measles), it is a significant fact that prematurity and congenital causes figure if anything more largely to-day than ever in the mortality tables for the first months of life.

It is to meet the obvious need—instruction of the expectant mother how to avoid what will prejudice the maturing of a healthy infant—that the *Mothers' and Babies' Welcome Society* recently organised special maternity centres at three of their Welcomes, where expectant mothers can consult a lady doctor, who is often able to recognize some such unfavourable condition and indicate how the matter can be righted.

The shortage of doctors is felt considerably in the attendance at the Welcomes, but thanks to recent additions to the strength of the Health Department's female staff, the Chief Health Visitor and Superintendent of Midwives (Miss G. B. Cameron) is able to report that the poorer mothers are now being visited much more frequently and regularly than hitherto, and there is reasonable ground for hoping that an effect may soon make itself apparent even upon the ante-natal causes.

As regards the influence of unhealthy *housing* upon the babies, with the passing of the years there accumulates more and more striking evidence. In 1915 there were 4,879 births under observation by the Department. Of those born in the single-room homes the mortality was 197 per 1,000 births, in the two-room holdings 167, and in the three-room 113.

During the eight years 1908-1915 the average infantile mortality for the City was 127 deaths per 1,000 births, and for the babies under observation 118. Of the latter, the single-room mortality averaged 145, the two-room 119, and the three-room 110.

Surely facts like these point their own moral!

Infectious Diseases showed a welcome decline upon the previous year's figures. With the exception of **Measles,** which was epidemic in the earlier months, the incidence of all was substantially lower than in 1914. Measles caused no less than 215 deaths, the largest actual number for 30 years, though the death rate per 1,000 population was lower than in 1914, and much lower than in 1893.

Since the close of the year under report, the wise step has been taken of making measles notifiable, and providing for the visiting and revisiting of needy cases, to ensure that they are receiving adequate and intelligent care. This will undoubtedly lead to a lessening of that most deadly of all the complications, broncho-pneumonia, as well as of others, for the large proportion of measles mortality is preventable.

One case of **Typhus** occurred in a *Poilu* escaped from a prisoners' camp in Germany, and ill on arrival in the Tyne. The patient made a good recovery.

Smallpox made no appearance, although exemptions from *vaccination* are now obtained in about 21 per cent. of the children born. High percentage as this is, it is low compared with that in some of the surrounding districts, and the very hint of smallpox fills one with dread of what would happen if the infection once got a real hold in a population containing so high a proportion of susceptibles. If these exemptions were made a little less easy to obtain it would soon appear how far the demand depended upon conscience, and how far upon sheer laziness.

Scarlet Fever continued rather prevalent, but considerably less so than in 1914, the attack rates per 1,000 population in the two years being respectively 5·0 and 6·4. The case mortality (40 deaths) was 2·8 per cent. The **Diphtheria** incidence was the lowest since 1905, and the case mortality (26 deaths) was 9·5 per cent. **Whooping Cough** caused 75 deaths, as against 77 in 1914. **Infantile Diarrhœa** was rather prevalent, causing 165 deaths in children under two years, as compared with 237 deaths in the previous year. There were 100 cases of **Enteric Fever,** and 12 deaths. The miraculous freedom of the army from enteric continues to be an outstanding feature of the epidemiology of the war, and it is unquestionably

due to the thorough way in which *preventive inoculation* has been carried out. A striking incident was the contracting of enteric fever by the only member of the nursing staff at the City Hospital not inoculated against the disease. She was the only one also to contract the infection.

Reference is made later to the subject of cleansing and scavenging.

Seven cases of **Acute Poliomyelitis,** and 27 of **Epidemic Cerebro-Spinal Meningitis,** were reported. Of these, two of the former and fifteen of the latter died.

There was no occurrence of anything suggestive of **Food-Poisoning.**

Hospitals for Infectious Diseases.—1,886 fever patients (representing 90·5 per cent. of the notified cases admissible), together with 54 patients in an advanced stage of pulmonary tuberculosis, were isolated at the *City Hospital, Walker Gate.* The former figure includes cases of a number of other diseases from military camps and billets outside the city. In all, 349 military cases were admitted. The fever case mortality for the Hospital was 4·8 per cent.

The numbers admitted constitute a record for the Hospitals.

The opening in April of the two temporary pavilions (described in the previous Report) erected by the War Office, relieved the pressure on the wards

considerably, but not to the extent of releasing the *Smallpox and Isolation Hospitals*, which were in requisition for convalescent cases of scarlet fever throughout the year.

Owing to the decline in the number of cases of this disease notified, however, it was not necessary to refuse admission to civilian cases, as happened in the previous year. The risk, in case of an outbreak of smallpox occurring, of using the smallpox wards for another purpose, is much too obvious to require emphasis. Hence the need continues for still more accommodation at Walker Gate.

Staffing difficulties proved a feature of the year, and there have been many changes in personnel. Thanks, however, to Dr. Dickinson's assuming the immediate charge of the City Hospitals in addition to maintaining the routine of the tuberculosis scheme—no slight undertaking—immediate anxiety as to the medical service was relieved. The addition of a qualified woman dispenser lightened considerably the work of the doctors, and proved a distinct economy in addition.

The **Disinfecting Stations** at Walker Gate and on the Moor were kept busy throughout the year, and dealt with a record number of articles, approximately 90,000. A word of praise is due to the staff, who cheerfully toiled long hours, for months on end, in order to handle the big consignments of stuff sent in from the various military units within a wide radius of Newcastle.

It is not too much to say that this work was of extreme importance in ensuring that freedom from disease, insect borne and otherwise, that has been so remarkable a feature of the present army mobilisation.

The **Tuberculosis** scheme has been kept going in spite of the shortage of medical staff. While it has not been possible to do more than a mere modicum of home visiting by the TUBERCULOSIS MEDICAL OFFICER (Dr. W. H. Dickinson), all the needful cases have been kept under systematic observation by the visiting nurses. On the other hand the number of consultations in the Dispensary continues to show increase.

There were 964 new notifications, as against 958 in the previous year, and there were 542 deaths registered, as against 529 in 1914. No less than 16 per cent. of these cases were first discovered by the Tuberculosis Medical Officer among the "contacts" of known cases.

Under the combined scheme the Tuberculosis Medical Officer advises the Insurance Committee as to the treatment to be allowed to insured consumptives, all of whom pass through his hands.

The thirty beds at *Barrasford Sanatorium* for adults, and the thirty beds for children at *Stannington Sanatorium*, were kept occupied throughout the year. Of 521 patients treated in Corporation beds at Barrasford since the commencement of contract in 1908, at the end of 1915 there were 26 still in the institution,

150 well, working or fit to work, 69 improved or fit for light work, 28 unimproved or relapsed, 179 dead, and 69 lost sight of. Of 65 Corporation patients who left Stannington in 1915, 39 were much improved, 18 improved, and 8 showed no improvement.

55 advanced cases were discharged from Walker Gate, and 7 of these were fit for work, 15 improved, 16 without improvement, and 17 died in hospital. 8 have died since leaving hospital.

The *Sanatorium, Walker Gate*, for advanced cases, was completed and opened in April, 1916. Its 62 beds, exclusive of open-air accommodation, should prove immensely valuable in future years.

Food and Provisions.—Bovine Tuberculosis.—188 samples of milk were examined for the presence of tubercle bacilli, and 11 (or 5·9 per cent.) were found to contain the germ.

The old difficulties in dealing with infected supplies continue, and it is not easy to appreciate the attitude of the Government which, while itself undertaking cheerfully, and insisting upon Local Authorities undertaking, greatly increased financial responsibilities for the purpose of safeguarding and protecting the rising and future generations in other directions, at the same time passes with enthusiasm and postpones indefinitely the date of operation of the long promised Milk and Dairies Act, subsequently polished up and codified as the Milk

and Dairies (Consolidation) Act, 1915. Meanwhile, of course, the Tuberculosis Orders have also gone by the board.

To a Local Authority anxious to deal fairly and squarely with the milk problem, the chief hindrance has always been the inequality of the parts played by other Authorities and the consequent all-round unfairness—to the active Local Authority, to the consumer (*i.e.*, the children), and to the trade. The main merit of the suspended legislation is that duties are imposed on everybody concerned, and an attempt is made to ensure that each party should bear his fair share of the burden.

Now, however, we are not even as we were, and it is sincerely to be hoped that some political Prince Charming may soon be found to restore animation to this Sleeping Beauty of the milk trade.

The arrangements for inspection within the City continue to be inadequate. There are 43 cowsheds and 106 slaughter houses scattered about the town, with only a single Veterinary Officer and two Assistant Inspectors to supervise them, besides having to perform other quite extensive duties. Until a public abattoir is provided the inspection of flesh food can never be really effectually carried out.

The Veterinary Inspector (Mr. Thos. Parker, F.R.C.V.S.), reports that 100 animal carcases were condemned on account of tuberculosis during the

year, an increase of $10\frac{3}{4}$ over the previous year, which may be due to the steady increase in the number of animals killed within the City. In one instance prosecution was successfully conducted, fines aggregating £27 being imposed.

Other Unsound Food.—121 animal carcases, in addition to the above, were condemned by the Veterinary Officer as being unfit for human consumption.

323 vessels brought foodstuffs from abroad to Newcastle Quayside, and their cargoes were inspected carefully, and such portions as proved to be unsound were seized and destroyed, or ordered to be re-exported.

The places where flesh food is prepared were kept under observation, and some improvements effected in unsatisfactory premises.

The Veterinary Officer carried out a considerable amount of food inspection on behalf of the military, condemning and destroying unsound material where necessary.

Food and Drugs Adulteration Acts.—The Inspector under the Food and Drugs Acts (Mr. Wm. Hudspeth) reports the taking of 1,249 samples for analysis, including 886 of milk.

Of the latter 473 were rough-tested in the Health Department, and appeared to be genuine, and of the remaining 413 the Public Analyst found 82 to be below

the minimal limits fixed by the Sale of Milk Regulations, 1901. Two samples were found to be artificially coloured, and none contained preservatives.

Of the 363 samples of food and drugs other than milk, 18 were found to be not genuine.

33 Cases were taken to Court, and a conviction was obtained in 22 of them, with fines aggregating £28 10 0; cautions were issued in respect of 51; no action was taken, for various reasons, in 14; and two cases were reported to the military authorities.

There were 8 offences other than adulteration, and two convictions out of three prosecutions; cautions were sent in respect of five.

The samples taken under the Food and Drugs Acts represented a proportion of 4·56 per 1,000 population, in addition to 188 samples of milk for examination by the Bacteriologist for presence of tubercle bacilli (mentioned above), and 194 for evidence of excremental pollution, which was found to an undesirable degree in 68 (or 35 per cent). In 188 samples of water examined for evidence of excremental pollution, 44 were classified by the Bacteriologist as satisfactory, 63 as doubtful, 58 as unsatisfactory, and 23 as bad.

The bakehouses, restaurant kitchens, fried fish shops, and ice-creameries were kept under supervision, and their cleanliness and cleansing insisted upon.

The 764 little general shops in which milk is sold are a continual menace to the child-life of the City, owing to the ease with which the exposed milk is contaminated, and the difficulty in ensuring that instructions as to covering the vessels against access of flies and dust are continuously—or in some cases ever—observed. In three instances the sale of milk was entirely forbidden.

The Home and the Workshop.—Nuisance Abatement.—The Inspector of Nuisances (Mr. Wm. Hudspeth) reports a slight falling off in the number of notices issued and dealt with, owing to the fact that the systematic house-to-house inspection under the Housing and Town Planning Act had to be discontinued early in the year. So many thousands of notices, mostly for trivial defects, had been issued that it was quite impossible to follow them up, at the same time continuing with fresh inspections. It must also be remembered that fully half the staff had been replaced by temporary officers, new to the work and strange to the districts. Further, owing to the dearness of labour and materials, it was found extremely difficult to get necessary repairs and alterations carried out.

In spite of these handicaps, however, over 10,000 notices were served, and proceedings were only rendered necessary in 23 instances—chiefly in connection with privy conversions.

It is inevitable that the civil population should feel some at least of the effects of the drain of labour into the army in the consequences of shorthandedness in the Cleansing Department, and it is surprising, and much to the credit of the City Engineer and Cleansing Superintendent, that the scavenging and cleansing continue to be so well done as they are. It is only by dealing with essentials first, and studying mere appearances last, that so little ill has accrued up to the present. The difficulty in obtaining the conversion of dry closets also militates against progress, and increased activity on the part of the Sanitary staff, in insistence upon the fulfilment by householders of their personal obligations, is called for on every hand.

The problem of the disposal of domestic refuse has become a serious one. Householders have been adjured here, as in other towns, to burn all organic matter, with but comparatively scant success. Apart from indifference pure and simple, the most common argument against this practice is that many houses use gas cookers. Nevertheless it is safe to say that there are few houses in Newcastle, equipped with gas stoves, in which there is not a coal fire burning also. This is War time, and it is not right that men should be retained for duties which can be performed by other means, nor that the efforts of the reduced number available should be wasted. Surely, therefore, if it is competent to a Local Authority to make by-laws imposing upon the occupier the duty of sweeping snow

from the public footpath before his house, a similar ordinance, making the combustion of all organic refuse compulsory upon the householder, is worthy of serious consideration at such a time as the present.

99 Orders have been served upon shop-keepers to provide proper closed receptacles for their refuse in place of the heterogeneous assortment of wooden and cardboard boxes, decrepit buckets, and even paper bags that adorn the kerbstones of the principal streets of the centre of the City during the early hours of the day. The effect of a quite gentle breeze is to add greatly to the litter of paper and dirt, and to the general untidiness of the town. Compliance has been obtained in about two-thirds of the cases. In about another 100 instances ashbins were provided on the suggestion of the Inspector. In the remainder the dejecta will be regarded as "trade refuse" and a charge will be levied accordingly for their removal.

A better type of ash-bin is required for general use than that which complies only with the minimum requirements of the Corporation. The standard metal tub almost invariably parts company with its lid at an early stage of its career, and practical separation if not actual divorce is the rule. Consequently children, flies, and cats have easy access to the contents, which become strewed around in an unsavoury mess, while soakage by rain leads to fermentation, a state of affairs that is highly favourable to the spread of disease, notably the summer diarrhœa of infants.

The conveyance of town refuse to sea was interfered with considerably during the year, but the City Engineer was still able, in spite of many difficulties, to get rid of all nightsoil refuse at the destructors, or to farmers for use on the land.

Closet conversions are becoming increasingly difficult, and naturally the number effected has declined considerably since the outbreak of war, from 708 in 1913, to 492 in 1914, and 347 in 1915. Needless to say only the worst are being dealt with at all.

Unfortunately we have still over 5,500 dry closets, or about one ninth of the whole, existing in Newcastle, mostly in the Byker and Walker districts.

Measurement of the degree of **Atmospheric Pollution** was commenced by the establishment in April, 1914, at an observation station on an open site between the Sallyport Tower and the river. It may come as somewhat of a shock to those who boast of the freshness of our air to know that the average deposit of solid impurities in that part of the City is at the rate of 19 cwt. per acre per annum, or 612 tons per square mile.

Housing is becoming a subject of more and more anxiety every day. At the end of the year there were only 150 unoccupied houses, of which 82 were self-contained, 4 were flats, and 4 house and shop combined, while 60 of these were believed to be unfit

for habitation. There is not an empty house in most of the working-class wards, and the occupied ones are grossly overcrowded. So acute is the house famine that as much as £10 is sometimes offered as a bonus for possession of a small flat. The appalling scarcity of the previous year is even greater now, and people seem to be settling down into a habit of congestion that is bound to leave its mark on the health and physique of the population. This is readily demonstrated in the high mortality rates from all causes, from tuberculosis, and among the infants, noted in the more densely crowded areas and those having the most insanitary houses.

Thus St. John's, All Saints', Stephenson, Byker, Armstrong, and St. Andrew's Wards generally head the mortality lists; Jesmond, Dene, St. Thomas', Fenham, and Heaton being at the opposite extreme. For example, the general death rate in St. John's was 25·9 per 1,000 inhabitants, as contrasted with 9·0 in Jesmond.

In St. John's, 2·35 persons died of pulmonary consumption per 1,000 inhabitants, while in St. Thomas' the rate was only 0·55. 28 per cent. of the population of the city live in one and two-roomed houses, but among these there occurred 35 per cent. of the deaths from pulmonary consumption.

The infantile mortality rate in Stephenson Ward was 196 deaths per 1,000 births, whereas in Jesmond it was only 57. As quoted already, in reference to infantile

mortality, the deaths in 1915 among infants under the observation of the health visitors was at the rate of 197 per 1,000 births in the single-room houses, 167 in the two-room, and 113 in the three-room.

What more striking evidence ("striking" indeed!) than this could be adduced in support of a demand for more houses, and still more? So far the effect of the small municipal schemes on the general situation has scarcely been even perceptible. It is evident that with the failure of both private and public enterprise our present ideas and restrictions may have to undergo drastic modifications, and it is possible that the solution of the problem may be found in some such compromise as is to be seen in the houses erected by the Ministry of Munitions, spacious, comfortable, of semi-permanent materials, but with permanent foundations, drainage, and roadways, so that the superstructure may be readily renewed, perhaps with improvements, when the original shall have served its turn and become worn out.

House closure for sanitary defects has been practically in complete abeyance, and the "black list" of houses for condemnation, when circumstances permit, is now of formidable proportions. 22 families have been unhoused, and new accommodation has been provided during the year for 138 families.

The common lodging houses have been under regular supervision, and have been kept satisfactorily

on the whole. These have been pretty constantly full, and are enjoying a period of considerable prosperity.

Factories and Workshops, and Schools.—Here there has been a falling off in the number of inspections and notices served almost to the extent of fifty per cent. This is due to the transference of one of the inspectors, usually detailed for this particular duty, to the routine inspection of military billets. Some 4,405 inspections were made, and 289 notices served. The homes of out-workers were also kept under observation.

106 inspections were made at Council Schools, and nine defects noted and reported to the Director of Education.

Nine samples of rag flock were purchased and submitted to the Public Analyst, three being found not to conform to the legal standard of cleanliness. One vendor was cautioned, and two others were prosecuted, one case being dismissed, and a fine of 20/- inflicted in the other.

Collaboration with the Military Authorities.—The close co-operation between the Health Department and the Military Authorities, described in the previous report, has continued throughout the year 1915.

The principal items of service rendered by the Department include routine inspection of billets and quarters, to ensure satisfactory sanitary conditions and prevent overcrowding; treatment of infectious disease,

and all necessary disinfection; steam sterilisation of blankets and kit, for vermin and infectious conditions generally; supervision of food supplies, and the conditions of manufacture and preparation; and generally the facilitating of arrangements for the health and comfort of troops.

Billet inspection entailed 2,301 visits; 349 cases of infectious disease (of whom 14 died) were treated at the City Hospital, Walker Gate; and 38,776 articles were disinfected for various reasons.

As the military arrangements have become more settled, and both officers and men have gained experience of how best to meet their own necessities, the responsibility of the civil authorities has been considerably lightened.

Except for the clerical labour entailed, this branch of work is both interesting and instructive, and there is the satisfaction of knowing that it has been of some value.

Staff.—Apart from the absence on military service of 14 men, including three of the medical staff, to whom full reference was made in last year's Report, the only change of particular note has been the resignation of Miss Elia Renaud from the position of Superintendent of Midwives, after 9½ years' excellent work. To her belongs the credit of organising the infant welfare section of the Department, and the Mothers' and Babies' Welcome Society, upon their present sound basis.

She has been succeeded by Miss Georgina B. Cameron, Superintendent of Midwives and Chief Assistant Health Visitor to Bradford Corporation.

Conclusion.—For all the additional work willingly undertaken, special acknowledgment is due to the staff, many of whom have also devoted their evenings to such useful purposes as assistance in the compilation of the National Register.

To yourself, Sir, and to the Sanitary Committee, I would express my deep appreciation of your continued confidence and support, and of your consideration and help in times of abnormal difficulty.

I have the honour to be, Sir,

Your obedient servant,

H. Kerr

M.D., D.P.H.,

Medical Officer of Health.

Health Department,
Town Hall,
Newcastle-upon-Tyne,
31st August, 1916.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

Health Report, 1915.

I. GENERAL.

MORTALITY TABLES, SOCIAL CONDITIONS, CLIMATOLOGY, WATER SUPPLY, DISPOSAL OF REFUSE, ADOPTED AND LOCAL ACTS.

POPULATION, BIRTH RATE, AND SPECIAL MORTALITY RATES DURING THE PERIOD OF THE NOTIFICATION OF INFECTIOUS DISEASES.

Year.	Population.	Birth Rate.	General Death Rate.	Infantile Mortality (Deaths per 1,000 Births).	Zymotic Death Rate.	Diarrhœa, All Ages.		Smallpox.					Typhus.		Enteric Fever.					Diphtheria.					Scarlet Fever.					Erysipelas.					Measles.		Whooping Cough.		Puerperal Septicæmia	Cancer		Phthisis.					Tuberculosis. Other Forms.					Tuberculosis. Total.					Year.
						Number of Deaths.	Death Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Cases Notified.	Number of Deaths.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Number of Deaths.	Death Rate per 1,000 Population.	Number of Deaths.	Death Rate per 1,000 Population.	Number of Cases Notified.	Number of Deaths.	Number of Deaths.	Death Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population	
1883	153,756	35·6	24·7	168	4·1	105	0·68	493	60	12·2	0·39	3·2	96	24	216	42	19·4	0·27	1·41	29	11	37·9	0·07	0·19	1,152	124	10·8	0·81	7·5	Not Notifiable.	?	...	?	...	209	1·36	51	0·33	7	1	?	?	...	?	...	?	...	...	?	...	?	...	...	?	...	?	...	1883
1884	157,567	38·5	22·5	156	3·2	164	1·04	174	12	7·0	0·07	1·1	17	6	260	47	18·1	0·30	1·65	76	16	21·0	0·10	0·48	2,167	156	7·2	0·99	13·7		10	...	0·06	...	15	0·09	85	0·54	16	9	73	0·46	...	329	...	2·08	...	...	176	...	1·12	...	...	505	...	3·20	...	1884
1885	161,526	36·2	24·7	174	4·3	113	0·70	70	3	4·3	0·02	0·43	9	7	253	56	22·1	0·35	1·58	93	26	28·0	0·16	0·57	1,227	83	6·8	0·51	7·6		16	...	0·10	...	359	2·22	49	0·30	11	4	64	0·40	...	368	...	2·28	...	...	138	...	0·86	...	...	506	...	3·13	...	1885
1886	165,585	36·9	20·7	156	2·4	147	0·89	5	...	...	...	0·03	1	...	205	34	16·6	0·21	1·27	73	19	26·0	0·11	0·44	1,004	45	4·5	0·27	6·1		12	...	0·07	...	42	0·25	102	0·62	14	11	81	0·49	...	362	...	2·18	...	...	155	...	0·94	...	...	517	...	3·12	...	1886
1887	169,745	36·1	23·3	174	3·1	115	0·68	7	...	...	...	0·04	37	4	325	42	12·9	0·25	1·92	90	31	34·4	0·18	0·53	1,208	38	3·1	0·22	7·1		19	...	0·11	...	211	1·24	71	0·42	10	4	77	0·45	...	341	...	2·01	...	...	167	...	0·98	...	...	508	...	3·0	...	1887
1888	174,012	34·5	18·7	138	1·3	66	0·38	...	...	...	...	...	4	1	122	23	18·9	0·13	0·70	97	33	34·0	0·19	0·56	749	24	3·2	0·14	4·3		5	...	0·03	...	10	0·06	64	0·37	5	3	115	0·66	...	348	...	2·00	...	...	136	...	0·78	...	...	484	...	2·78	...	1888
1889	178,385	34·2	22·6	175	2·8	198	1·11	...	...	...	...	...	7	2	136	19	14·0	0·11	0·76	96	30	31·2	0·17	0·54	601	30	5·0	0·17	3·4		13	...	0·07	...	94	0·53	129	0·72	2	2	73	0·41	...	387	...	2·18	...	...	214	...	1·20	...	...	601	...	3·38	...	1889
1890	182,866	36·0	23·4	169	1·9	157	0·86	4	...	...	...	0·02	17	3	198	35	17·7	0·19	1·08	181	44	24·3	0·24	0·99	613	26	4·2	0·14	3·3		25	...	0·14	...	7	0·04	80	0·44	4	3	92	0·50	...	383	...	2·10	...	...	186	...	1·02	...	...	569	...	3·12	...	1890
1891	186,976	35·7	23·6	175	2·5	83	0·44	...	...	...	...	...	19	2	134	24	17·9	0·13	0·72	121	42	34·7	0·22	0·65	785	39	5·0	0·21	4·2		11	...	0·06	...	128	0·68	179	0·96	5	2	107	0·57	...	398	...	2·13	...	...	259	...	1·39	...	...	657	...	3·52	...	1891
1892	189,770	34·6	19·8	150	1·5	73	0·38	4	1	25·0	0·00	0·02	...	...	97	14	14·4	0·07	0·51	156	41	26·3	0·22	0·82	963	29	3·0	0·15	5·1		8	...	0·04	...	67	0·35	75	0·40	7	2	105	0·56	...	409	...	2·15	...	...	204	...	1·08	...	...	613	...	3·23	...	1892
1893	192,478	34·4	21·4	174	2·4	154	0·80	25	...	...	...	0·13	3	2	141	25	17·7	0·13	0·73	171	28	16·4	0·15	0·89	693	23	3·3	0·12	3·6		8	...	0·04	...	208	1·08	33	0·17	4	2	123	0·64	...	347	...	1·81	...	...	190	...	0·99	...	...	537	...	2·78	...	1893
1894	195,285	32·0	18·8	157	2·0	79	0·40	2	...	...	...	0·01	...	...	164	30	18·3	0·15	0·84	112	27	24·1	0·14	0·57	826	27	3·3	0·14	4·2		7	...	0·04	...	94	0·48	149	0·76	4	1	116	0·60	...	370	...	1·90	...	...	167	...	0·86	...	...	537	...	2·74	...	1894
1895	198,141	32·4	20·8	186	2·2	152	0·77	...	...	...	...	...	...	...	213	48	22·5	0·24	1·07	174	49	28·2	0·25	0·88	959	26	2·7	0·13	4·8		3	...	0·02	...	140	0·71	57	0·29	13	5	141	0·71	...	406	...	2·05	...	...	218	...	1·10	...	...	624	...	3·15	...	1895
1896	201,035	33·3	19·4	165	1·9	77	0·38	...	...	...	...	...	...	...	176	33	18·7	0·16	0·87	164	34	20·7	0·17	0·82	896	23	2·6	0·11	4·4		6	...	0·03	...	133	0·66	95	0·47	6	5	142	0·71	...	401	...	1·99	...	...	206	...	1·03	...	...	607	...	3·02	...	1896
1897	203,871	33·5	20·0	177	1·7	142	0·70	...	...	...	...	...	...	...	138	33	23·9	0·16	0·68	102	19	18·6	0·09	0·50	496	24	4·8	0·12	2·4		4	...	0·02	...	96	0·47	62	0·30	7	3	143	0·71	...	375	...	1·84	...	...	213	...	1·05	...	...	588	...	2·88	...	1897
1898	206,950	34·0	22·5	190	2·4	146	0·71	17	3	17·6	0·01	0·08	...	...	307	66	21·5	0·32	1·48	89	27	30·3	0·13	0·43	692	26	3·8	0·13	3·3		5	...	0·02	...	125	0·60	145	0·70	2	...	174	0·84	...	412	...	1·99	...	...	163	...	0·79	...	...	575	...	2·78	...	1898
1899	209,973	34·2	22·0	193	1·7	146	0·70	...	...	...	...	...	1	1	133	22	16·5	0·10	0·63	107	25	23·4	0·12	0·51	622	28	4·5	0·13	2·9		12	...	0·06	...	79	0·37	89	0·42	3	...	161	0·77	...	398	...	1·90	...	...	182	...	0·87	...	...	580	...	2·77	...	1899
1900	213,039	33·4	21·0	169	1·4	83	0·39	...	...	...	...	...	2	1	79	18	22·8	0·08	0·37	101	27	26·7	0·13	0·46	603	20	3·3	0·09	2·8	141	7	5·0	0·03	0·66	87	0·41	81	0·38	4	2	174	0·82	...	405	...	1·90	...	...	179	...	0·84	...	...	584	...	2·74	...	1900
1901	216,150	32·0	21·2	177	2·2	249	1·16	25	1	4·0	0·00	0·12	2	...	76	12	15·8	0·06	0·35	146	36	24·7	0·17	0·67	1,389	42	3·0	0·19	6·4	135	11	8·1	0·05	0·63	68	0·31	105	0·49	3	1	214	0·99	...	428	...	1·98	...	...	188	...	0·78	...	...	596	...	2·76	...	1901
1902	216,275	33·6	19·9	139	1·6	57	0·26	13	1	7·7	0·00	0·06	1	1	57	8	14·0	0·04	0·26	133	21	15·8	0·10	0·61	1,382	59	4·3	0·27	6·4	179	10	5·6	0·05	0·83	137	0·63	98	0·45	1	1	197	0·91	...	357	...	1·65	...	...	168	...	0·78	...	...	525	...	2·43	...	1902
1903	217,010	31·8	19·1	166	1·1	118	0·54	155	9	5·8	0·04	0·71	3	...	75	9	12·0	0·04	0·35	147	36	24·5	0·17	0·68	1,175	31	2·6	0·14	5·4	191	9	4·7	0·04	0·88	12	0·06	52	0·24	7	4	200	0·92	...	371	...	1·71	...	...	201	...	0·93	...	...	572	...	2·64	...	1903
1904	217,862	31·6	19·5	155	1·6	99	0·45	351	17	4·8	0·08	1·6	...	...	30	7	23·3	0·03	0·14	235	47	20·0	0·22	1·08	886	25	2·8	0·12	4·1	206	8	3·9	0·04	0·95	56	0·26	124	0·57	5	5	209	0·96	...	377	...	1·73	...	...	177	...	0·81	...	...	554	...	2·55	...	1904
1905	255,160	33·2	18·0	138	1·4	144	0·56	103	2	1·9	...	0·40	...	...	50	11	22·0	0·04	0·20	288	52	18·1	0·21	1·13	705	14	2·0	0·05	2·8	213	7	3·3	0·03	0·84	37	0·14	88	0·34	5	4	231	0·91	...	397	...	1·56	...	...	211	...	0·83	...	...	608	...	2·38	...	1905
1906	257,113	31·9	18·8	153	2·2	257	1·00	8	...	...	...	0·03	...	...	70	13	18·6	0·05	0·27	364	66	18·1	0·25	1·41	733	17	2·3	0·07	2·9	187	5	2·7	0·02	0·73	163	0·63	58	0·23	6	2	222	0·87	...	401	...	1·56	...	...	191	...	0·74	...	...	592	...	2·30	...	1906
1907	259,082	31·2	17·8	125	1·5	46	0·18	1	...	...	...	...	3	...	66	11	16·6	0·04	0·25	383	52	13·6	0·20	1·47	614	22	3·6	0·08	2·4	180	4	2·2	0·02	0·70	116	0·45	130	0·50	4	2	238	0·92	...	398	...	1·53	...	...	168	...	0·65	...	...	566	...	2·18	...	1907
1908	261,065	32·1	18·4	139	1·4	145	0·55	...	...	...	...	...	...	...	111	14	12·6	0·05	0·42	335	36	10·7	0·14	1·28	394	10	2·5	0·04	1·5	147	1	0·7	0·00	0·56	30	0·12	131	0·50	6	2	279	1·07	...	387	...	1·48	...	...	199	...	0·76	...	...	586	...	2·24	...	1908
1909	263,064	29·2	16·9	122	1·3	50	0·19	...	...	...	...	...	6	...	74	19	25·7	0·07	0·28	456	58	12·7	0·22	1·73	844	34	4·0	0·13	3·2	169	2	1·2	0·00	0·64	112	0·43	70	0·27	11	3	264	1·00	...	344	...	1·31	...	...	173	...	0·66	...	...	517	...	1·97	...	1909
1910	265,077	28·4	16·0	123	1·2	103	0·39	3	1	33·3	0·00	0·01	10	...	63	9	14·3	0·03	0·24	443	40	9·0	0·15	1·67	574	12	2·1	0·05	2·2	182	4	2·2	0·01	0·69	87	0·33	79	0·30	4	2	286	1·08	...	331	...	1·25	...	...	180	...	0·68	...	...	511	...	1·93	...	1910
1911	267,261	26·5	16·4	137	1·8	178	0·67	...	...	...	...	...	5	...	87	10	11·5	0·04	0·33	507	38	7·5	0·14	1·96	734	14	1·9	0·05	2·7	187	4	2·1	0·01	0·70	117	0·44	126	0·58	6	2	253	0·95	...	350	...	1·31	...	...	157	...	0·59	...	...	507	...	1·90	...	1911
1912	269,193	26·7	14·3	101	1·4	86	0·32	...	...	...	...	...	...	...	91	15	16·5	0·06	0·34	501	33	6·6	0·12	1·85	1,184	34	2·9	0·13	4·4	161	7	4·3	0·03	0·60	164	0·61	38	0·14	7	5	255	0·95	972	358	36·8	1·33	3·61	From 1st February, 1913	136	...	0·50	...	...	494	...	1·83	...	1912
1913	271,295	27·5	15·5	122	1·3	186	0·69	...	...	...	...	...	...	...	124	15	12·1	0·06	0·46	368	28	7·6	0·10	1·36	955	20	2·1	0·07	3·5	175	8	4·6	0·03	0·65	64	0·24	98	0·36	11	8	276	1·02	796	326	41·0	1·20	2·94	450	153	34·0	0·56	1·66	1246	479	38·4	1·76	4·6	1913
1914	271,523	27·8	17·2	137	2·3	302	1·11	...	...	...	...	...	2	1	102	21	20·6	0·08	0·38	362	28	7·7	0·10	1·33	1,723	44	2·6	0·16	6·4	250	7	2·8	0·03	0·92	212	0·78	77	0·28	16	2	265	0·98	665	375	56·4	1·38	2·45	293	154	52·6	0·57	1·08	958	529	55·2	1·95	3·5	1914
1915	278,107	†27·8	*17·2	133	1·9	214	0·77	...	...	...	...	...	1	...	100	12	12·0	0·04	0·36	275	26	9·5	0·09	0·99	1,416	40	2·8	0·14	5·0	169	5	3·0	0·02	0·60	215	0·77	75	0·27	21	8	270	0·97	612	380	62·0	1·37	2·20	352	162	46·0	0·58	1·27	964	542	56·2	1·95	3·5	1915

Prior to 1911 figures uncorrected for cases belonging to other Districts. † Calculated on population for 1914. * Civilians only.

GENERAL STATISTICS.

POPULATION.—As estimated by the Registrar General at the middle of the year 1915—***(Revised)* 278,107.**

RETURN SHEWING THE ESTIMATED POPULATION OF THE DIFFERENT WARDS IN THE CITY, ACREAGE, POPULATION PER ACRE, ETC.

Ward.	Population.	Gross Area in Acres.	Less for Open Spaces, in Acres.	Nett Area in Acres.	Population Per Acre, gross.	Nett
St. Nicholas' ...	3,656	127	1	126	29	29
St. Thomas' ...	14,449	1,636	1,130	506	9	29
St. John's ...	15,725	169	1	168	93	94
Stephenson ...	19,205	215	...	215	89	89
Armstrong ...	16.003	178	31	147	90	109
Elswick	12,955	253	17	236	51	55
Westgate	15,635	90	1	89	174	176
Arthur's Hill ...	11,704	142	6	136	82	86
Benwell	18,010	550	20	530	33	34
Fenham	11,301	1,189	...	1,189	10	10
All Saints' ...	18,130	176	2	174	103	104
St. Andrew's ...	12,783	173	3	170	74	75
Jesmond	11,317	441	35	406	26	28
Dene	12,478	818	37	781	15	16
Heaton	15,877	225	76	149	70	106
Byker	17,904	140	...	140	128	128
St. Lawrence ...	18,343	181	3	178	101	103
St. Anthony's ...	16,165	601	...	601	27	27
Walker	16,467	1,149	37	1,112	14	15
CITY ...	278,107	8,453	1,400	7,053	33	39

***INHABITED HOUSES.—51,802**, shewing (each flat being counted as one house) an average of 5·32 persons per house.

RATEABLE VALUE.—£1,732,327. A penny rate produced £6,593.

SOCIAL CONDITIONS.—The principal **Trades and Occupations** are of a healthy nature, being general engineering and machine making; conveyance of men, goods, and messages; building and works of construction, *e.g.*, ship building; and connected with ships and boats, sea-faring and harbour work; food, tobacco, drink, and lodging; coal and shale mines; and commercial or business occupations.

*From City Engineer's Report.

The amount of **Poor Law Relief** granted was £29,015 for out-door relief, and £24,509 for indoor maintenance, making a total of **£53,524.**

The City contains many **Hospitals** and other medical charities, but as wide surrounding districts are also served by them, figures as to patients treated are not of local value.

MARRIAGES.—3,264 Marriages took place during the year.

BIRTHS.—7,545, equivalent to a rate of **27·8** per 1,000 population.

DEATHS (all causes)—5,257, equivalent to an uncorrected rate of 18·9 per 1,000, and, after deduction of the deaths of 693 non-citizens, and addition of 207 Newcastle residents who died elsewhere, to a corrected rate of 17·2 per 1,000 population.

22 deaths were *uncertified.* The following are the particulars :—

UNCERTIFIED DEATHS, 1915.

Premature Birth—2 in St. John's, ages 3 and 4 hours ; 1 in Elswick, 3 hours ; 1 in Westgate, 1 hour	4
Debility—1 in Stephenson, aged 5 min. ; 1 in All Saints, 1 hour ; 2 in St. Anthony's, 75 years, and 2 days	4
Convulsions—1 in St. Thomas', aged 4 months ; 2 in All Saints, 1 hour and 24 hours ; 3 in St. Anthony's, 1 hour, 9 hours, and 1 day	6
Bronchitis—1 in Byker, aged 3 years	1
Heart Diseases—1 in Stephenson, aged 46 years ; 1 in Jesmond, 62 years ; 1 in St. Lawrence, 45 years...	3
Phthisis—1 in Byker, aged 12 years...	1
Cancer of Uterus—1 in Elswick, aged 45 years	1
Old Age—1 in Benwell, 86 years ; 1 in Heaton, 83 years ...	2
	22

Sixteen **Orders for Burial** (Newcastle-upon-Tyne Improvement Act, 1882, Sec. 47) were given, 4 being in respect of bodies lying in inhabited rooms, and 12 being cases from hospitals.

INFANTILE MORTALITY.—1,008 Infants died before completing the first year of life, representing a rate of **133** deaths per 1,000 births.

ZYMOTIC DEATH RATE.—There were 533 deaths from the "Chief Zymotic Diseases" [Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (Typhus, Simple Continued, and Enteric) and Diarrhœa] which is equivalent to 1·9 deaths per 1,000 population.

TUBERCULOSIS.—542 persons died from various forms of Tuberculosis, 380 being from Pulmonary, and 162 from Other Forms. The equivalent death rates are *All Forms* **1·95**, *Pulmonary* **1·37**, and *Other Forms than Pulmonary* **0·58**, per 1,000 population.

For comparison of death rates with previous years see table page 32A.

For particulars of deaths, as to causes, age, etc., see table page 40B.

CLIMATOLOGY.—The Newcastle district is notable for its grey skies and comparative lack of sunshine. To some extent this is the result of obscuration by smoke and suspended matter, but not by any means entirely so. During the year 1915 there were 905 hours of sunshine. (Record by Messrs. Brady & Martin).

At the Observation Station at the City Hospital, Walker-Gate, the mean barometer reading was 29·64 in.

The mean maximum temperature was 55·26° F. and the mean minimum 39·88° F.

Measureable rain fell on 169 days, amounting in all to 27·6 inches.

The prevailing winds were westerly, frequency of direction being noted as follows:—

W., N.W., or S.W. on 203 days.
E., N.E., or S.E. on 99 days.
S. on 34 days.
N. on 29 days.

WATER SUPPLY.—The City is served by the Newcastle and Gateshead Water Company with a plentiful supply of pure upland surface water, collected from large catchment areas at Catcleugh, close to the Cheviots, and in lower Northumberland.

It is stored in large impounding reservoirs at Catcleugh, Hallington, and Whittle Dene, and passes through sand filters at Whittle Dene and Throckley.

In the vast majority of cases the household taps are served directly from the mains, without intervening cisterns.

A separate trade supply is piped to some of the great riverside works from a point above the filters.

The Bacteriological reports upon the water samples are given on page 109.

SEWERAGE.—There are 277 miles and 760 yards of sewers discharging at various points along the seven miles of river frontage directly into the Tyne, which is tidal.

CLEANSING AND SCAVENGING.—$14\frac{3}{4}$ miles of streets are cleansed continuously by men, women and boys during the day, $37\frac{3}{4}$ miles are cleansed once a day, $110\frac{3}{4}$ miles three times a week, and $89\frac{3}{4}$ miles twice a week. (This has been done when possible, but shortage of labour has greatly interfered with the work.)

There are 51,466 water closets and 5,528 conservancy system closets in the city. Conversion of the latter was proceeding steadily up to the outbreak of war, at the rate of 600 to 700 per annum. All the schools are served by the water-carriage system.

The scavenging, which includes the removal of dry house refuse, the contents of privy pans, privies, and ashpits is efficiently carried out.

There are 51,965 dry ashtubs and galvanised iron bins in the City.

ADOPTIVE AND LOCAL ACTS IN FORCE.

Adopted Acts—Infectious Disease (Prevention) Act, 1890. Section 4.

Public Health Acts Amendment Act, 1890.

Part III.—Whole of.

Part IV.—Whole of.

Notification of Births Act, 1907.

Public Health Acts Amendment Act, 1907.

Part II.—Sections 20, 22, 23, 26, 27, 28, 29, 30, 31, and 33.

Part III.—Sections 34, 35, 36, 37, 38, 43, 45, 48, 49, 50, and 51.

Part IV.—Sections 52, 53, 56, 58, 59, 61, 62, 63, 64 65, and 68.

Part X.—Whole of.

Local Acts.—Newcastle-upon-Tyne Improvement Act, 1837.
Do. do. 1846.
Do. do. 1853.
Do. do. 1865.
Do. do. 1870.
Do. do. 1882.
Do. do. 1892.

Newcastle-upon-Tyne Tramways and Improvement Act ... ... 1899.

Newcastle-upon-Tyne Corporation Act ... 1911.

MORTALITY RATES, YEAR 1915.

COMPARISON WITH OTHER DISTRICTS.

DISTRICT.	Birth Rate.	General Death Rate.	Infantile Mortality Rate.	Death Rate per 1000 from Enteric Fever, Smallpox, Scarlet Fever, Measles, Whooping Cough, and Diphtheria	Tuberculosis (all causes) Death Rate.
England and Wales	21·8	14·8	110	0·89	?
96 Great Towns (includ. London)	22·8	15·9	117	1·00	?
NEWCASTLE-UPON-TYNE	**27·8**	**17·2**	**133**	**1·31**	**1·95**
Hull	24·8	16·7	120	0·61	1·8
Leeds	21·5	16·6	127	0·74	1·92
Bradford	17·36	16·90	123	0·90	1·56
Sheffield	25·5	17·2	133	1·94	1·8
Manchester	22·23	16·31	128·64	0·99	2·18
Salford	24·8	19·1	126	2·8	2·2
Liverpool	27·9	18·7	133	0·96	2·1
Nottingham	20·6	15·1	130	0·59	1·56
Leicester	20·7	14·5	125	0·55	?
Stoke-on-Trent	26·9	18·4	147	1·44	1·7
Birmingham	23·8	14·4	118	0·84	1·55
Cardiff	24·6	14·8	106	0·69	1·33
Bristol	20·2	15·2	116	0·83	?
Portsmouth	24·5	16·2	87	1·26	1·74
London	22·6	16·1	112	1·01	?
Gateshead	30·4	19·5	145	1·62	?
South Shields	29·6	19·4	143	1·14	2·36
Tynemouth	25·22	17·8	136	1·30	1·95
Sunderland	30·2	19·8	151	1·2	2·0
Middlesbrough	28·8	20·1	150	2·44	?
County of Northumberland ...	24·5	17·6	125	1·54	?
County of Durham	28·07	15·67	131	1·74	1·28

TABLE I. OF LOCAL GOVERNMENT BOARD.

Vital Statistics of Whole District during 1915 and previous Years.

Year.	Population estimated to Middle of each Year.	Births.			Total Deaths Registered in the District.		Transferable Deaths		Nett Deaths belonging to the District.			
			Nett.						Under 1 Year of Age.		At all Ages.	
		Uncorrected Number	Number	Rate.	Number	Rate.	of Non-residents registered in the District	of Residents not registered in the District	Number	Rate per 1,000 Nett Births.	Number	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1906	257,113	8,210			4,831	18·8						
1907	259,082	8,093			4,594	17·7						
1908	261,065	8,382			4,801	18·4						
1909	263,064	7,682			4,459	16·9						
1910	265,077	7,543			4,252	16·0						
1911	267,261	7,089	7,082	26·5	4,667	17·5	448	165	973	137	4,384	16·
1912	269,193	7,219	7,194	26·7	4,221	15·7	529	146	727	101	3,838	14·5
1913	271,295	7,480	7,460	27·5	4,611	17·0	560	141	908	122	4,192	15·5
1914	271,523	7,564	7,538	27·8	5,069	18·7	546	138	1,029	137	4,660	17·2
1915	278,107	7,575	7,545	27·8†	5,257	18·9	693	207	1,007	133	4,771*	17·2*

Area of District in acres (exclusive of area covered by water) 8,452. Total population at all ages at census 1911, 266,603.

† In accordance with the instructions of the Supt. of Statistics, General Register Office, Somerset House, this rate is calculated on the population for 1914. * Civilians only.

Corrected Death Rates in different Wards, 1915.

St. Nicholas'.	St. Thomas'.	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints'.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	City.
15·6	* 9·8	25·9	21·4	18·9	18·6	16·9	* 15·3	16·4	13·6	24·4	18·5	9·0	9·5	13·7	19·0	15·6	17·0	* 17·6	17·2

* All deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

TABLE II. OF LOCAL GOVERNMENT BOARD.

(See under **Infectious Diseases,** *page 65.)*

TABLE IV. OF LOCAL GOVERNMENT BOARD.

(See under **Infantile Mortality,** *page 44a.)*

TABLE SHOWING DISTRIBUTION OF BIRTHS AND DEATHS IN THE DIFFERENT QUARTERS OF THE YEAR.

Registration Sub-districts and City.		Births Registered in 52 Weeks ended 1st January, 1916 (uncorrected). BIRTHS. Male. Legitimate.	Male. Illegitimate.	Female. Legitimate.	Female. Illegitimate.	Total	Deaths Registered in 52 Weeks ended 1st January, 1916 (uncorrected). DEATHS. Male. Legitimate.	Male. Illegitimate.	Female. Legitimate.	Female. Illegitimate.	Total
Benwell,	1st Qr.	117	7	126	3	253	58	3	62	2	125
	2nd Qr.	84	3	114	3	204	60	...	39	1	100
	3rd Qr.	128	3	124	5	260	33	1	46	1	81
	4th Qr.	94	3	84	1	182	33	...	45	1	79
Total...	...	423	16	448	12	899	184	4	192	5	385
Elswick,	1st Qr.	186	16	189	12	403	244	7	223	2	476
	2nd Qr.	171	18	175	12	376	173	1	140	...	314
	3rd Qr.	197	14	181	11	403	151	3	88	2	244
	4th Qr.	186	13	150	6	355	186	4	124	...	314
Total...	...	740	61	695	41	1,537	754	15	575	4	1,348
St. Nicholas,	1st Qr.	117	7	98	4	226	116	1	85	6	208
	2nd Qr.	126	6	127	5	264	60	...	64	...	124
	3rd Qr.	115	8	84	4	211	61	2	55	2	120
	4th Qr.	94	5	104	5	208	57	5	66	1	129
Total...	...	452	26	413	18	909	294	8	270	9	581
St. Andrew's,	1st Qr.	75	5	89	3	172	211	2	143	2	358
	2nd Qr.	107	3	96	4	210	182	1	107	3	293
	3rd Qr.	96	1	80	2	179	173	1	93	1	268
	4th Qr.	72	5	69	5	151	181	5	133	...	319
Total...	...	350	14	334	14	712	747	9	476	6	1,238
All Saints,	1st Qr.	112	3	114	4	233	63	...	64	...	127
	2nd Qr.	127	3	99	8	237	50	1	45	1	97
	3rd Qr.	92	6	98	2	198	53	2	39	...	94
	4th Qr.	87	3	88	5	183	60	3	41	1	105
Total...	...	418	15	399	19	851	226	6	189	2	423
Byker,	1st Qr.	316	6	290	8	620	137	7	136	2	282
	2nd Qr.	275	5	258	10	548	101	2	106	5	214
	3rd Qr.	268	6	247	10	531	93	...	101	2	196
	4th Qr.	257	9	233	11	510	107	5	110	2	224
Total...	...	1,116	26	1,028	39	2,209	438	14	453	11	916
Walker,	1st Qr.	69	3	42	2	116	82	3	58	...	143
	2nd Qr.	69	2	61	1	133	44	...	32	...	76
	3rd Qr.	53	1	57	1	112	37	...	30	1	68
	4th Qr.	48	2	45	2	97	44	...	35	...	79
Total...	...	239	8	205	6	458	207	3	155	1	366
City,	1st Qr.	992	47	948	36	2,023	911	23	771	14	1,719
	2nd Qr.	959	40	930	43	1,972	670	5	533	10	1,218
	3rd Qr.	949	39	871	35	1,894	601	9	452	9	1,071
	4th Qr.	838	40	773	35	1,686	668	22	554	5	1,249
Total...	...	3,738	166	3,522	149	7,575	2,850	59	2,310	38	5,257

The Births represent a rate of 27·2, and the Deaths a rate of 18·9 per 1,000 estimated population.
The increase of Births over Deaths is 2,318 this year, as compared with 2,495 in 1914.

YEAR, 1915.

Return of deaths from "ALL CAUSES" at age periods in the different Wards (*uncorrected*) together with the *Nett Deaths*.

WARD.	UNDER 1 YEAR.					1 AND UNDER 2 YEARS.					2 AND UNDER 5 YEARS.					5 AND UNDER 15 YEARS.					15 AND UNDER 25 YEARS.					25 AND UNDER 45 YEARS.					45 AND UNDER 65 YEARS.					65 YEARS AND UPWARDS.					TOTAL.					NETT DEATHS.
	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total	
St. Nicholas' ...	4	1	3	1	9	...	2	...	1	3	3	...	...	...	3	...	1	1	...	2	...	...	...	...	...	3	3	2	3	11	9	3	5	5	22	5	2	2	2	11	24	12	13	12	61	57
St. Thomas'* ...	16	13	9	11	49	14	7	4	5	30	10	4	10	6	30	22	13	12	17	64	39	31	16	20	106	43	47	44	50	184	36	43	35	38	152	30	21	15	23	89	210	179	145	170	704	141
St. John's ...	32	9	29	15	85	28	4	5	5	42	19	4	5	3	31	4	5	3	4	16	2	2	3	2	9	16	12	9	11	48	20	31	17	29	97	27	25	14	19	85	148	92	85	88	413	417
Stephenson ...	38	17	23	25	103	22	7	5	4	38	24	3	5	1	33	6	3	3	2	14	4	5	3	2	14	10	8	9	14	41	31	19	19	18	87	30	14	19	12	75	165	76	86	78	405	411
Armstrong ...	23	25	16	18	82	15	5	6	2	28	12	7	5	2	26	5	4	4	6	19	2	1	4	2	9	5	12	7	12	36	13	13	10	21	57	17	8	4	12	41	92	75	56	75	298	302
Elswick	9	7	11	11	38	5	6	1	...	12	4	2	3	...	9	3	...	1	4	8	4	1	2	3	10	7	5	4	4	20	17	17	8	12	54	33	22	13	28	96	82	60	43	62	247	241
Westgate ...	16	14	13	17	60	6	7	5	2	20	7	7	5	...	19	3	1	3	2	9	2	...	1	3	6	12	4	7	10	33	12	10	10	17	49	18	14	7	23	62	76	57	51	74	258	265
Arthur's Hill† ...	2	...	3	7	12	2	...	...	...	2	...	2	...	1	3	1	2	...	1	4	...	2	2	2	6	6	2	3	4	15	14	6	15	11	46	18	8	7	10	43	43	22	30	36	131	179
Benwell	27	15	18	10	70	12	7	3	4	26	12	8	4	2	26	3	7	4	1	15	4	2	4	3	13	8	6	8	8	30	10	22	16	7	55	16	11	9	22	58	92	78	66	57	293	296
Fenham	12	10	3	4	29	7	2	1	3	13	1	7	2	3	13	2	1	3	1	7	2	1	3	1	7	5	7	5	4	21	9	5	9	12	35	16	3	4	6	29	54	36	30	34	154	154
All Saints' ...	19	18	33	23	93	8	1	4	7	20	7	2	1	4	14	6	4	3	3	16	2	7	2	2	13	16	17	13	23	69	41	29	18	33	121	29	24	16	27	96	128	102	90	122	442	442
St. Andrew's ...	22	8	17	12	59	6	...	4	5	15	3	...	5	...	8	2	4	...	2	8	2	2	3	2	9	13	8	4	9	34	18	10	16	11	55	16	13	10	17	56	82	45	59	58	244	236
Jesmond... ...	2	4	2	1	9	2	...	...	...	2	...	1	...	...	1	1	1	...	2	4	...	...	...	1	1	4	3	2	3	12	5	5	4	12	26	14	8	4	14	40	28	22	12	33	95	100
Dene	6	5	2	7	20	4	2	...	2	8	1	...	...	1	2	3	1	1	1	6	2	1	...	1	4	7	2	4	2	15	5	4	1	8	18	13	8	5	13	39	41	23	13	35	112	119
Heaton	12	9	6	5	32	4	2	2	1	9	...	2	2	...	4	2	1	3	3	9	2	2	1	1	6	8	5	9	4	26	20	15	12	16	63	19	12	11	20	62	67	48	46	50	211	217
Byker	32	16	16	20	84	7	10	14	3	34	6	6	9	4	25	3	2	6	7	18	4	3	1	5	13	7	13	7	11	38	21	16	11	10	58	23	13	7	17	60	103	79	71	77	330	341
St. Lawrence ...	25	19	16	18	78	10	3	5	9	27	7	2	1	3	13	2	4	1	3	10	1	3	5	1	10	4	6	5	6	21	10	26	11	12	59	12	14	18	12	56	71	77	62	64	274	287
St. Anthony's ...	23	14	14	13	64	12	4	6	4	26	5	3	1	2	11	5	5	4	3	17	2	3	1	1	7	8	12	11	12	43	11	13	11	13	48	19	14	9	16	58	85	68	57	64	274	276
Walker‡... ...	30	21	8	6	65	18	3	5	8	34	18	5	5	2	30	7	4	4	3	18	8	9	5	5	27	7	6	7	14	34	16	9	13	10	48	24	10	9	12	55	128	67	56	60	311	290
City	350	225	242	224	1041	182	72	70	65	389	139	65	63	34	301	80	63	56	65	264	82	75	56	57	270	189	178	160	204	731	318	296	241	295	1150	379	244	183	305	1111	1719	1218	1071	1249	5257	4771§

All deaths occurring in Public Institutions have been allotted to the wards to which they properly belong. * Includes the Royal Infirmary, etc. † Includes the Union Infirmary, St. Joseph's Home, etc. ‡ Includes the City Hospital, Walker Gate, etc. § Civilians only.

TABLE III. OF THE LOCAL GOVERNMENT BOARD.

Return of Deaths from "All Causes" during the 52 Weeks ended January 1st, 1916.

Cause of Death.	Age Periods. Gross. Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above.	Total.	Age Periods. Nett. Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above	Total.
I.—General Diseases.																		
Enteric Fever	...	...	...	2	7	4	1	...	14	...	...	...	1	5	5	1	...	12
Measles	52	80	72	12	1	1	...	...	218	52	80	71	11	...	1	...	...	215
Scarlet Fever	4	5	18	16	2	...	...	...	45	4	5	14	16	1	...	...	...	40
Whooping Cough	39	21	15	...	...	...	...	...	75	39	21	15	...	...	...	...	...	75
Diphtheria	2	7	13	6	...	...	...	...	28	2	7	12	5	..	...	...	...	26
Influenza	...	...	...	...	3	5	5	8	21	...	...	...	...	3	5	6	8	22
Erysipelas	2	...	...	1	...	...	2	...	5	2	...	...	1	...	...	2	...	5
Pyæmia, Septicæmia	1	...	...	...	2	2	...	1	6	1	...	...	...	...	1	...	1	3
Pulmonary Tuberculosis (not acute)	4	3	5	28	63	164	87	11	365	4	3	4	25	62	164	92	14	368
Acute Phthisis	...	...	1	2	1	5	4	...	13	...	...	1	2	1	5	3	...	12
Acute Miliary Tuberculosis	...	2	2	1	1	1	1	...	8	...	2	2	1	...	1	1	...	7
Tuberculous Meningitis	9	10	16	24	6	2	...	...	67	8	12	15	23	5	1	...	...	64
Tuberculosis of Peritoneum and Intestines	17	11	15	17	9	4	...	...	73	17	8	13	13	6	4	...	...	61
Tuberculosis of Spinal Column	...	1	...	...	1	...	1	...	3	...	...	...	...	1	...	1	...	2
Tuberculosis of Joints	1	...	1	3	3	2	...	1	11	1	...	...	3	3	2	...	1	10
Tuberculosis of other Organs	1	2	...	1	1	1	3	1	10	...	1	...	...	...	...	2	1	4
Disseminated Tuberculosis	4	2	...	3	1	1	...	1	12	4	2	...	3	2	1	1	1	14
Total Tuberculosis	36	31	40	79	86	180	96	14	562	34	28	35	70	80	178	100	17	542
Rickets, Softening of Bones	3	5	4	1	...	1	...	...	14	3	5	4	1	...	1	...	...	14
Syphilis	11	...	...	...	...	1	...	...	12	9	...	...	...	...	1	...	...	10
Cancer of the Buccal Cavity	...	...	...	...	1	1	13	13	28	...	...	...	...	1	1	11	11	24
Cancer of the Stomach, Liver, etc.	...	...	...	1	...	14	55	28	98	...	...	...	1	...	13	46	27	87
Cancer of the Peritoneum, Intestines, and Rectum	...	1	1	...	...	8	40	26	76	...	1	1	...	...	7	31	23	63
Cancer of the Female Genital Organs	...	...	...	...	...	15	21	5	41	...	...	...	...	...	13	21	5	39
Cancer of the Breast	...	...	...	...	...	3	9	5	17	...	...	...	...	...	3	8	5	16
Cancer of the Skin	...	1	...	...	...	1	2	2	6	...	...	...	...	...	...	2	2	4
Cancer of other or unspecified organs	...	...	...	...	1	7	29	10	47	...	...	...	...	1	1	25	10	37
Rheumatic Fever	...	...	1	1	2	3	2	...	9	...	...	1	1	1	3	2	...	8
Chronic Rheumatism, Osteo-Arthritis	...	...	1	2	...	4	8	3	18	...	...	1	2	...	4	8	3	18
Gout	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	1	1	2
Diabetes	...	...	...	...	3	6	19	10	38	...	...	...	...	3	4	14	10	31
Exophthalmic Goitre	...	...	...	...	...	3	1	1	5	...	..	...	...	...	2	1	1	4
Addison's Disease	...	...	...	...	1	2	...	...	3	...	...	...	...	...	...	...	...	...
Leucocythæmia, Lymphadenoma	...	1	...	1	3	5	2	...	12	...	1	...	1	1	3	2	...	8
Anæmia, Chlorosis	...	...	...	...	2	3	12	2	19	...	...	...	...	1	3	11	2	17
Other General Diseases	...	...	1	2	1	1	...	...	5	...	...	...	...	...	1	...	...	1
Alcoholism (acute or chronic)	...	...	...	...	...	2	11	1	14	...	...	...	...	...	1	9	1	11
II.—Diseases of Nervous System and Organs of Special Sense.																		
Encephalitis	...	...	...	...	1	1	...	...	2	...	...	...	...	1	1	...	...	2
Cerebro-Spinal Fever	1	...	...	1	12	2	...	...	16	1	...	...	1	2	...	...	...	4
Poliomyelitis	...	1	1	..	...	...	...	...	2	...	1	1	...	...	...	...	...	2
Meningitis, other forms or undefined	13	3	6	8	3	4	...	...	37	13	2	6	8	1	3	...	...	33
Locomotor Ataxy	...	...	...	...	...	...	1	1	2	...	...	...	...	..	...	1	1	2
Other Diseases of the Spinal Cord	...	...	...	1	...	4	6	4	15	...	...	...	...	...	3	5	4	12
Cerebral Hæmorrhage, Apoplexy	...	...	...	...	3	12	110	108	233	...	...	...	...	1	8	112	114	235
Softening of the Brain	...	...	...	...	...	...	1	4	5	...	...	...	...	...	1	1	5	7
Paralysis without specified cause	...	...	1	...	...	1	10	15	27	...	...	1	...	...	1	10	15	27
General Paralysis of the Insane	...	...	...	...	...	1	4	...	5	...	...	...	...	1	12	13	...	26
Other forms of Mental Alienation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	5
Epilepsy	...	...	...	2	2	3	2	...	9	...	...	...	1	3	6	5	...	15
Convulsions (non-puerperal; 5 years and over)	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1
Infantile Convulsions (under 5 years)	60	8	3	...	...	...	...	...	71	59	8	3	...	...	...	...	...	70
Chorea	...	...	1	1	1	...	1	...	4	...	...	1	...	...	...	1	...	2
Hysteria, Neuralgia, Neuritis	...	...	...	...	...	2	3	1	6	...	...	...	...	...	2	3	1	6
Other Diseases of the Nervous System	...	...	1	2	2	6	3	1	15	...	...	1	1	...	4	4	2	12
Mastoid Disease	2	2	1	2	1	1	...	...	9	2	2	...	...	...	...	1	...	5
Other Diseases of the Ears	...	1	2	4	4	1	...	...	12	...	1	...	2	...	1	...	...	4
III.—Diseases of Circulatory System.																		
Pericarditis	1	...	...	...	...	1	...	1	3	1	...	...	...	...	1	...	1	3
Acute Endocarditis	...	...	...	4	7	11	21	5	48	...	...	...	1	2	9	18	4	34
Valvular Disease, Fatty Degeneration of the Heart	...	...	...	5	8	45	112	87	257	...	...	...	5	7	42	115	93	262
Other Organic Disease of the Heart	1	...	...	1	5	13	67	68	155	1	...	...	1	4	11	66	72	155
Angina Pectoris	...	...	...	...	...	...	9	13	22	...	...	...	...	...	...	7	12	19
Aneurysm	...	...	...	...	...	6	4	1	11	...	...	...	...	...	3	4	1	8
Arterial Sclerosis	...	...	...	...	...	...	29	100	129	...	...	...	...	...	...	28	100	128
Other Diseases of Arteries	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	1
Cerebral Embolism and Thrombosis	...	...	...	...	...	2	5	12	19	...	...	...	...	...	1	5	11	17
Other Embolism and Thrombosis	...	...	...	1	1	4	...	...	6	...	...	...	...	...	3	...	...	3
Diseases of the Veins (Varices, Hæmorrhoids, Phlebitis, etc.)	...	...	...	...	1	2	...	1	4	...	...	...	...	1	...	...	1	2
Hæmorrhage; Other Diseases of the Circulatory System	...	...	...	...	...	1	1	1	3	...	...	...	...	...	1	1	1	3
IV.—Diseases of Respiratory System.																		
Diseases of the Larynx	...	2	3	...	...	3	1	...	9	1	2	2	...	...	2	1	...	8
Diseases of the Thyroid Body	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	3	1	4
Bronchitis	71	30	16	4	4	16	82	147	370	71	29	16	4	3	16	80	145	364
Broncho-Pneumonia	91	78	40	10	...	6	13	6	244	89	75	38	10	...	6	12	6	236
Lobar Pneumonia	2	7	5	9	8	25	35	13	104	2	7	3	9	6	16	36	12	91
Pneumonia (type not stated)	26	19	12	4	6	16	14	16	113	26	18	12	4	2	12	13	19	106
Pleurisy	1	3	4	1	1	5	6	5	26	...	1	1	...	...	4	6	4	16
Pulmonary Congestion, Pulmonary Apoplexy	...	...	..	1	...	2	...	6	9	...	...	...	1	...	2	1	9	13
Gangrene of the Lung	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...
Asthma	...	...	...	...	...	9	10	6	25	...	...	...	...	...	9	10	6	25
Pulmonary Emphysema	...	1	...	...	...	...	...	6	7	...	...	...	...	...	...	...	7	7
Other Diseases of the Respiratory System	...	...	...	1	...	...	2	...	3	...	...	...	1	...	...	2	...	3
Carried forward	419	307	262	186	185	478	883	760	3,480	412	294	239	159	131	435	867	775	3,312

Cause of Death.	Wards—Gross Deaths. St. Nicholas'.	St. Thomas'.	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints'.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	Total.	Transferable Deaths. Inward.	Outward.	Nett Deaths.	Deaths in Institutions in the City of "Residents" or "Non Residents".
I.—General Diseases.																								
Enteric Fever	...	2	...	1	...	...	2	...	1	...	2	...	...	...	...	...	2	2	2	14	1	3	12	11
Measles	2	9	24	32	35	7	8	2	25	6	6	3	...	...	3	6	8	9	33	218	1	4	215	13
Scarlet Fever	1	1	6	1	...	4	3	...	1	...	2	1	2	...	4	7	2	2	8	45	1	6	40	35
Whooping Cough	1	...	3	12	6	1	8	1	7	6	3	5	...	1	2	7	3	1	8	75	...	...	75	4
Diphtheria	...	1	4	2	1	2	1	1	3	...	1	1	...	1	3	1	2	1	3	28	1	3	26	20
Influenza	...	...	2	5	1	1	1	...	2	1	3	1	1	...	1	...	1	1	...	21	1	...	22	...
Erysipelas	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	1	1	...	...	5	...	...	5	1
Pyæmia, Septicæmia	...	3	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	6	...	3	3	5
Pulmonary Tuberculosis (not acute)	7	22	37	28	20	17	20	14	17	14	50	15	7	7	17	21	21	16	15	365	16	13	368	109
Acute Phthisis	...	1	1	...	...	...	...	...	1	...	2	1	...	1	1	1	1	1	2	13	...	1	12	1
Acute Miliary Tuberculosis	...	1	1	1	...	...	...	...	1	2	1	...	1	...	...	...	...	...	...	8	...	1	7	3
Tuberculous Meningitis	...	6	5	6	5	3	10	...	5	3	2	3	1	3	1	7	2	3	2	67	3	6	64	10
Tuberculosis of Peritoneum and Intestines	...	12	4	6	12	1	1	4	10	3	4	1	...	...	...	2	2	5	6	73	...	12	61	21
Tuberculosis of Spinal Column	...	1	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	3	...	1	2	2
Tuberculosis of Joints	...	1	...	...	...	1	...	1	1	...	3	...	...	...	...	4	...	...	...	11	...	1	10	6
Tuberculosis of other Organs	...	6	...	...	...	1	...	...	...	1	...	1	...	...	...	1	...	...	...	10	...	6	4	5
Disseminated Tuberculosis	...	...	...	5	...	...	...	1	...	1	...	1	...	1	...	...	1	2	...	12	2	...	14	5
Total Tuberculosis	7	50	48	46	37	23	31	20	36	25	62	22	9	12	19	36	27	27	25	562	21	41	542	161
Rickets, Softening of Bones	...	2	1	...	...	1	3	...	1	...	1	...	...	...	1	1	...	...	3	14	...	...	14	1
Syphilis	...	2	1	1	...	...	...	1	...	1	1	...	...	...	...	1	1	1	2	12	...	2	10	4
Cancer of the Buccal Cavity	...	2	1	3	...	1	2	...	2	2	3	4	1	1	1	4	1	...	...	28	...	4	24	11
Cancer of the Stomach, Liver, etc.	1	19	7	8	5	3	5	3	5	2	8	8	1	4	4	2	3	2	8	98	5	16	87	25
Cancer of the Peritoneum, Intestines, and Rectum	1	16	1	3	4	7	2	3	5	3	4	4	3	1	10	3	2	2	2	76	3	16	63	25
Cancer of the Female Genital Organs	1	3	2	3	2	1	2	1	3	1	3	3	2	1	2	4	2	2	3	41	...	2	39	9
Cancer of the Breast	...	2	1	...	...	...	1	1	1	1	2	1	1	2	1	...	...	1	2	17	...	1	16	2
Cancer of the Skin	...	2	...	1	...	...	1	...	...	...	1	...	...	...	1	...	...	...	...	6	1	3	4	4
Cancer of other or unspecified organs	...	13	3	1	3	2	1	1	1	2	6	3	3	2	1	2	...	2	1	47	3	13	37	22
Rheumatic Fever	...	1	...	1	1	...	...	...	1	...	4	1	...	...	...	...	...	...	...	9	...	1	8	1
Chronic Rheumatism, Osteo-Arthritis	...	...	2	1	3	...	2	...	...	1	1	...	1	...	...	1	3	1	2	18	...	...	18	...
Gout	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	...	2	...
Diabetes	...	9	1	4	3	2	2	...	2	...	1	2	...	2	3	3	3	1	...	38	...	7	31	13
Exophthalmic Goitre	...	1	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	1	...	5	...	1	4	2
Addison's Disease	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	3	...	3	...	3
Leucocythæmia, Lymphadenoma	...	4	2	1	1	...	...	...	...	...	1	1	...	1	...	1	...	...	...	12	...	4	8	5
Anæmia, Chlorosis	1	2	1	2	...	...	1	2	2	1	...	...	1	1	...	1	1	...	3	19	1	3	17	4
Other General Diseases	...	4	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	4	1	3
Alcoholism (acute or chronic)	1	2	1	2	1	...	...	...	...	...	3	...	...	2	1	...	...	1	...	14	...	3	11	4
II.—Diseases of Nervous System and Organs of Special Sense.																								
Encephalitis	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	2	...
Cerebro-Spinal Fever	...	2	...	...	...	1	...	1	1	...	...	...	...	...	1	...	...	...	10	16	...	12	4	12
Poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	2	...
Meningitis, other forms or undefined	1	3	1	3	3	4	1	1	1	2	4	...	1	1	4	1	...	4	2	37	...	4	33	5
Locomotor Ataxy	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2	...	...	2	2
Other Diseases of the Spinal Cord	...	3	...	...	2	2	...	...	2	1	...	2	1	...	1	...	...	...	1	15	1	4	12	6
Cerebral Hæmorrhage, Apoplexy	6	21	23	21	11	11	9	10	12	4	21	7	4	3	11	15	16	14	14	233	13	11	235	54
Softening of the Brain	...	...	...	1	...	...	...	...	1	...	1	...	...	...	1	1	...	...	...	5	2	...	7	...
Paralysis without specified cause	...	1	1	1	4	2	1	1	...	1	3	...	1	2	2	5	...	2	...	27	1	1	27	4
General Paralysis of the Insane	...	...	1	...	...	...	...	...	1	...	1	...	...	...	...	...	2	...	...	5	21	...	26	4
Other forms of Mental Alienation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	5	...
Epilepsy	...	2	1	...	...	...	...	2	...	1	...	1	...	1	...	...	1	...	...	9	7	1	15	1
Convulsions (non-puerperal; 5 years and over)	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Infantile Convulsions (under 5 years)	...	3	4	5	1	2	4	...	11	2	4	3	1	...	2	9	6	9	5	71	1	2	70	3
Chorea	2	...	...	...	...	...	...	...	..	...	...	1	...	...	...	...	1	...	...	4	...	2	2	1
Hysteria, Neuralgia, Neuritis	...	...	1	...	...	...	2	...	1	...	...	...	...	...	...	2	...	...	...	6	...	...	6	2
Other Diseases of the Nervous System	1	4	1	2	2	2	...	...	...	1	...	1	...	...	1	...	...	...	1	15	3	6	12	9
Mastoid Disease	...	6	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	9	1	5	5	5
Other Diseases of the Ears	1	7	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1	12	...	8	4	8
III.—Diseases of Circulatory System.																								
Pericarditis	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	3	...	...	3	...
Acute Endocarditis	1	17	3	2	4	1	3	1	3	1	2	2	1	1	3	1	1	1	...	48	...	14	34	21
Valvular Disease, Fatty Degeneration of the Heart	5	18	22	20	12	11	21	7	12	8	23	13	6	8	13	15	14	20	9	257	17	12	262	83
Other Organic Disease of the Heart	1	15	14	17	6	12	8	2	5	9	9	11	4	4	4	7	8	10	9	155	7	7	155	22
Angina Pectoris	1	2	...	1	...	3	3	...	2	1	1	...	...	2	4	1	1	...	...	22	...	3	19	1
Aneurysm	...	3	1	...	1	...	...	2	...	1	...	1	...	...	...	1	1	...	...	11	...	3	8	6
Arterial Sclerosis	3	6	13	12	5	8	3	10	8	5	16	9	2	2	4	6	4	13	...	129	4	5	128	87
Other Diseases of Arteries	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	...
Cerebral Embolism and Thrombosis	...	2	...	...	3	4	3	2	1	1	1	...	...	2	...	...	...	...	...	19	1	3	17	4
Other Embolism and Thrombosis	...	3	...	1	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	6	...	3	3	2
Diseases of the Veins (Varices, Hæmorrhoids, Phlebitis, etc.)	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	4	...	2	2	1
Hæmorrhage; Other Diseases of the Circulatory System	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	3	...	...	3	1
IV.—Diseases of Respiratory System.																								
Diseases of the Larynx	...	2	...	1	1	...	1	1	...	...	1	1	...	...	...	...	1	...	...	9	1	2	8	3
Diseases of the Thyroid Body	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	2	2	...	4	...
Bronchitis	2	18	40	30	21	22	19	7	20	16	50	22	8	5	15	24	15	20	16	370	3	9	364	31
Broncho-Pneumonia	...	15	23	18	14	8	9	3	13	8	25	7	2	7	10	23	19	22	18	244	4	12	236	25
Lobar Pneumonia	1	17	9	5	4	4	7	3	3	3	10	7	3	1	6	4	5	9	3	104	5	18	91	28
Pneumonia (type not stated)	1	12	15	19	9	7	10	4	4	...	7	2	3	4	2	2	5	4	3	113	4	11	106	14
Pleurisy	...	9	3	2	1	1	2	1	1	...	2	...	...	...	...	2	1	...	1	26	...	10	16	11
Pulmonary Congestion, Pulmonary Apoplexy	...	...	3	...	...	2	1	...	1	...	...	...	...	...	1	...	1	...	...	9	4	...	13	2
Gangrene of the Lung	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Asthma	...	1	1	5	1	3	...	2	...	1	3	...	...	...	1	3	2	...	2	25	1	1	25	3
Pulmonary Emphysema	...	1	...	...	1	...	...	1	...	1	1	...	...	...	2	...	...	...	...	7	1	1	7	1
Other Diseases of the Respiratory System	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	...	...	3	...
Carried forward	39	352	294	300	212	167	183	99	208	119	307	152	62	76	146	206	169	186	203	3,480	148	316	3,312	852

Table III. of the Local Government Board.—Continued.

Return of Deaths from "All Causes" during the 52 Weeks ended January 1st, 1916.

Cause of Death	Gross: Under 1 year	Gross: 1 year and under 2	Gross: 2 years and under 5	Gross: 5 years and under 15	Gross: 15 years and under 25	Gross: 25 years and under 45	Gross: 45 years and under 65	Gross: 65 years and above	Gross: Total	Nett: Under 1 year	Nett: 1 year and under 2	Nett: 2 years and under 5	Nett: 5 years and under 15	Nett: 15 years and under 25	Nett: 25 years and under 45	Nett: 45 years and under 65	Nett: 65 years and above	Nett: Total
Brought forward	419	307	262	186	185	478	883	760	3,480	412	294	239	159	131	435	867	775	3,312
V.—Diseases of Digestive System.																		
Diseases of the Pharynx, Tonsillitis	1	...	...	3	3	...	...	1	8	...	...	...	2	1	...	...	...	3
Diseases of Œsophagus	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
Perforating Ulcer of Stomach	...	...	...	...	2	13	8	...	23	...	...	...	...	2	4	4	...	10
Inflammation of Stomach	14	2	...	1	...	...	3	6	26	14	2	...	1	...	...	3	6	26
Other Diseases of the Stomach	2	1	...	3	1	2	3	1	13	2	1	...	3	1	3	3	1	14
Zymotic Diarrhœa (under 2 years), *including* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	127	42	...	...	...	...	...	...	169	125	40	...	...	...	...	...	...	165
Diarrhœa and Enteritis (2 years and over)	...	...	10	6	4	12	11	11	54	...	...	10	6	2	7	12	12	49
Appendicitis	...	...	...	8	14	11	3	5	41	...	...	...	2	2	2	1	4	11
Hernia, Intestinal Obstruction	9	3	...	7	6	12	11	19	67	5	1	...	4	...	5	2	13	30
Other Diseases of the Intestines	3	...	...	...	1	4	1	...	9	3	...	...	...	...	3	1	...	7
Cirrhosis of the Liver	...	...	...	...	...	8	19	6	33	...	...	...	...	...	6	16	5	27
Biliary Calculi	...	...	...	...	...	4	5	2	11	...	...	...	...	...	4	3	1	8
Other Diseases of the Liver	...	...	...	...	...	...	1	3	4	...	...	...	...	...	...	1	3	4
Peritonitis (cause unstated)	...	...	...	2	1	1	5	3	12	...	...	...	...	...	...	4	2	6
Other Diseases of the Digestive System	...	1	...	...	1	1	1	...	4	...	1	...	...	...	...	...	...	1
VI.—Non-Venereal Diseases of Genito-Urinary System and Annexa.																		
Acute Nephritis	1	1	4	4	8	27	59	25	129	1	1	3	3	7	19	57	26	117
Bright's Disease	...	...	...	1	...	7	25	14	47	...	...	...	1	...	6	22	13	42
Other Diseases of the Kidney and Annexa	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	1	1
Calculi of the Urinary Passages	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	1
Diseases of the Bladder	...	...	...	...	...	1	1	4	6	...	...	...	...	...	1	1	4	6
Diseases of the Urethra, Urinary Abscess, &c.	...	...	...	...	...	1	4	2	7	...	...	...	...	...	...	2	1	3
Diseases of the Prostate	...	...	...	...	...	...	11	15	26	...	...	...	...	...	...	3	7	10
Uterine Tumour (non-cancerous)	...	...	...	...	...	2	...	1	3	...	...	...	...	...	1	...	...	1
Ovarian Cyst, Tumour (non-cancerous)	...	...	...	...	...	1	1	...	2	...	...	...	...	...	...	1	...	1
Other Diseases of the Female Genital Organs	...	1	...	...	1	1	1	...	4	...	1	...	...	...	...	...	...	1
VII.—The Puerperal State.																		
Accidents of Pregnancy	...	...	...	...	...	2	...	...	2	...	...	...	...	...	1	...	...	1
Puerperal Hæmorrhage	...	...	...	...	...	7	...	...	7	...	...	...	...	...	5	...	...	5
Other Accidents of Childbirth	...	...	...	...	...	11	...	...	11	...	...	...	...	...	6	...	...	6
Puerperal Fever	...	...	...	...	3	6	...	...	9	...	...	...	...	3	5	...	...	8
Puerperal Albuminuria and Convulsions	...	...	...	...	3	5	...	...	8	...	...	...	...	2	5	...	...	7
Puerperal Phlegmasia alba dolens, Embolism and Sudden Death	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1
VIII.—Diseases of Skin and Cellular Tissue.																		
Senile Gangrene	...	...	...	...	...	...	1	11	12	...	...	...	...	...	...	...	11	11
Gangrene, other types	...	1	1	...	1	1	1	1	6	...	...	...	...	...	...	1	1	2
Carbuncle, Boil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Phlegmon, Acute Abscess	1	1	...	1	...	2	4	1	10	1	...	...	...	...	...	3	...	4
Diseases of the Integumentary System	4	...	1	1	...	...	...	1	7	3	...	1	1	...	...	...	1	6
IX.—Diseases of Bones, etc.																		
Diseases of the Bones	1	...	1	4	2	...	1	1	10	1	...	1	1	1	...	1	...	5
Diseases of the Joints	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...
Amputations	...	...	...	1	...	...	1	...	2	...	...	...	...	...	...	1	...	1
Other Diseases of Locomotor System	1	...	1	...	...	1	...	...	3	...	...	...	...	...	...	...	...	...
X.—Malformations.																		
Congenital Malformations	37	5	...	...	...	...	...	...	42	30	3	...	...	...	...	...	...	33
XI.—Diseases of Early Infancy.																		
Premature Birth	184	...	...	...	...	...	...	...	184	181	...	...	...	...	...	...	...	181
Infantile Atrophy, Debility, and Marasmus	194	10	4	...	...	...	...	...	208	188	9	2	...	...	...	...	...	199
Icterus Neonatorum, Sclerema and Œdema Neonatorum	11	...	...	...	...	...	...	...	11	10	...	...	...	...	...	...	...	10
Diseases of Umbilicus, &c.	1	1	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	1
Atelectasis	3	...	...	...	...	...	...	...	3	3	...	...	...	...	...	...	...	3
Injuries at Birth	8	...	...	...	...	...	...	...	8	8	...	...	...	...	...	...	...	8
Other Diseases peculiar to early infancy	3	...	...	...	...	...	...	...	3	3	...	...	...	...	...	...	...	3
XII.—Old Age.																		
Old Age	...	...	...	...	...	...	2	173	175	...	...	...	...	...	...	3	183	186
XIII.—Affections produced by External Causes.																		
Suicide	...	...	...	...	4	11	9	4	28	...	...	...	...	4	8	7	4	23
Poisoning by Food	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1
Other Acute Poisonings	...	...	...	...	1	2	1	...	4	...	...	...	...	...	1	...	...	1
Scalds and Burns (conflagration excepted)	...	4	5	10	4	5	4	1	33	...	3	5	2	...	5	2	1	18
Absorption of Deleterious Gases	...	...	...	...	1	...	...	...	1	...	...	...	...	1	...	...	...	1
Accidental Drowning	1	...	2	2	1	3	3	1	13	1	...	1	1	1	2	3	1	10
Injury by Firearms	...	...	...	...	...	2	...	...	2	...	...	...	...	...	1	...	...	1
Injury by Cutting or Piercing Instruments	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...
Injury by Fall	...	...	2	4	3	15	11	14	49	...	...	1	3	1	10	8	15	38
Injury in Mines and Quarries	...	...	...	...	...	3	...	...	3	...	...	...	...	...	1	...	...	1
Injury by other Crushing (vehicles, railways, landslides, &c.)	...	...	3	7	...	4	9	2	25	...	...	3	5	1	2	7	...	18
Electricity (lightning excepted)	...	...	...	1	1	1	...	...	3	...	...	...	2	...	...	...	...	2
Homicide by Cutting or Piercing Instruments	...	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1
Other Violence	2	1	3	10	7	37	30	6	96	2	1	1	3	...	14	18	7	46
War—Aircraft	...	...	...	...	8	10	...	...	18	...	...	...	...	...	1	...	...	1
Shock—Air Raid	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1
XIV.—Ill-defined Causes.																		
Dropsy	...	...	...	...	...	...	1	2	3	...	...	...	...	...	...	1	2	3
Syncope (aged 1 year and under 70)	...	...	...	...	...	1	3	...	4	...	...	...	...	...	...	3	...	3
Heart Failure (aged 1 year and under 70)	...	1	...	...	1	2	4	7	15	...	1	...	...	1	5	4	10	21
Atrophy, Debility, Marasmus (aged 1 year and under 70)	...	...	...	1	...	1	3	3	8	...	...	...	1	...	...	3	4	8
Teething	13	7	1	...	...	...	...	...	21	13	7	1	...	...	...	...	...	21
Other ill-defined deaths	1	...	...	...	...	2	...	1	4	1	...	...	...	...	2	...	1	4
Cause not specified	...	...	...	1	1	7	6	2	17	...	...	...	...	...	3	5	2	10
Total	1041	389	301	264	270	731	1150	1111	5,257	1008	365	269	200	161	576	1073	1119	4,771

Cause of Death	St. Nicholas'	St. Thomas'	St. John's	Stephenson	Armstrong	Elswick	Westgate	Arthur's Hill	Benwell	Fenham	All Saints	St. Andrew's	Jesmond	Dene	Heaton	Byker	St. Lawrence	St. Anthony's	Walker	Total	Transferable Deaths: Inward	Transferable Deaths: Outward	Nett Deaths	Deaths in Institutions in the City of "Residents" or "Non-Residents"
Brought forward	39	352	294	300	212	167	183	99	208	119	307	152	62	76	146	206	169	186	203	3,480	148	316	3,312	852
V.—Diseases of Digestive System.																								
Diseases of the Pharynx, Tonsillitis	...	5	...	...	...	...	...	...	...	...	...	1	1	...	...	1	...	...	...	8	...	5	3	6
Diseases of Œsophagus	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Perforating Ulcer of Stomach	...	11	1	2	1	1	...	...	...	1	...	...	3	...	2	1	...	...	...	23	...	13	11	13
Inflammation of Stomach	...	...	...	...	...	1	2	...	6	1	3	3	...	2	1	1	6	...	...	26	...	...	26	...
Other Diseases of the Stomach	...	2	...	1	...	2	...	...	2	...	1	1	1	...	1	1	...	...	1	13	1	...	13	...
Zymotic Diarrhœa (under 2 years), *including* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	2	6	18	20	15	4	9	2	7	1	20	15	1	2	4	21	10	8	4	169	...	4	165	10
Diarrhœa and Enteritis (2 years and over)	...	8	...	3	1	2	1	2	3	1	2	4	4	1	7	10	2	2	1	54	2	7	49	14
Appendicitis	...	32	2	...	...	...	...	...	1	1	...	...	...	1	1	1	...	...	2	41	...	30	11	29
Hernia, Intestinal Obstruction	1	34	2	2	2	...	1	...	4	...	6	3	1	1	1	4	1	4	...	67	...	37	30	48
Other Diseases of the Intestines	...	2	...	...	...	...	...	...	...	...	2	1	1	1	...	...	1	1	...	9	...	2	7	4
Cirrhosis of the Liver	1	9	2	2	...	2	1	3	2	...	2	3	1	...	2	1	1	...	1	33	...	6	27	8
Biliary Calculi	...	4	...	...	1	1	...	...	...	...	2	2	...	...	...	...	...	...	1	11	2	5	8	5
Other Diseases of the Liver	...	...	...	...	...	1	...	...	...	1	...	...	1	...	1	...	...	...	...	4	...	...	4	1
Peritonitis (cause unstated)	1	6	1	...	1	1	1	...	...	...	...	...	...	...	...	1	...	...	...	12	...	6	6	5
Other Diseases of the Digestive System	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	3	1	4
VI.—Non-Venereal Diseases of Genito-Urinary System and Annexa.																								
Acute Nephritis	1	21	7	6	8	6	7	3	6	5	8	10	5	1	9	6	8	6	6	129	5	17	117	35
Bright's Disease	...	5	2	...	3	7	5	3	3	2	5	3	...	1	1	2	2	1	2	47	1	6	42	8
Other Diseases of the Kidney and Annexa	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1
Calculi of the Urinary Passages	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Diseases of the Bladder	...	...	...	...	...	1	...	1	1	...	...	2	1	...	...	...	...	...	...	6	...	...	6	1
Diseases of the Urethra, Urinary Abscess, &c.	...	4	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	7	...	4	3	4
Diseases of the Prostate	...	18	2	1	...	1	...	1	1	...	...	1	...	...	...	...	...	...	1	26	...	16	10	13
Uterine Tumour (non-cancerous)	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	2	1	1
Ovarian Cyst, Tumour (non-cancerous)	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	1	1
Other Diseases of the Female Genital Organs	...	3	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	4	...	3	1	1
VII.—The Puerperal State.																								
Accidents of Pregnancy	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	2	...	1	1	1
Puerperal Hæmorrhage	...	1	...	...	...	...	1	...	...	...	1	...	1	...	...	1	1	1	...	7	...	2	5	1
Other Accidents of Childbirth	...	3	1	2	...	...	...	...	...	1	3	...	...	...	1	...	...	...	...	11	...	5	6	5
Puerperal Fever	...	1	...	...	1	1	...	...	3	...	1	...	...	...	...	...	...	1	1	9	...	1	8	2
Puerperal Albuminuria and Convulsions	...	...	2	1	...	2	...	...	...	...	1	1	...	...	...	...	1	...	...	8	...	1	7	5
Puerperal Phlegmasia alba dolens, Embolism and Sudden Death	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...
VIII.—Diseases of Skin and Cellular Tissue.																								
Senile Gangrene	...	1	2	1	...	...	1	...	...	...	1	...	...	1	...	1	3	...	1	12	...	1	11	2
Gangrene, other types	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	6	...	4	2	4
Carbuncle, Boil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Phlegmon, Acute Abscess	...	5	2	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	10	...	6	4	10
Diseases of the Integumentary System	...	1	1	...	1	1	...	...	...	...	...	2	...	...	1	...	...	...	...	7	...	1	6	4
IX.—Diseases of Bones, etc.																								
Diseases of the Bones	...	3	...	1	...	...	...	1	...	...	1	...	...	...	...	2	1	...	1	10	...	5	5	5
Diseases of the Joints	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Amputations	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	1	1	1
Other Diseases of Locomotor System	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...	3
X.—Malformations.																								
Congenital Malformations	...	8	4	2	2	...	2	...	4	...	6	2	1	...	1	2	4	1	3	42	...	9	33	15
XI.—Diseases of Early Infancy.																								
Premature Birth	2	...	13	16	10	6	16	6	14	4	16	7	2	9	9	12	18	13	11	184	1	4	181	10
Infantile Atrophy, Debility, and Marasmus	4	11	17	22	14	7	11	2	6	3	12	8	2	4	7	27	18	14	19	208	...	9	199	17
Icterus Neonatorum, Sclerema and Œdema Neonatorum	...	2	...	...	1	...	...	...	...	1	2	1	...	...	...	1	1	2	...	11	...	1	10	3
Diseases of Umbilicus, &c.	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	1	1	1
Atelectasis	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	3	...	...	3	...
Injuries at Birth	...	...	...	...	1	2	1	...	...	...	...	...	...	...	...	1	...	2	1	8	...	...	8	...
Other Diseases peculiar to early infancy	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	3	...	...	3	...
XII.—Old Age.																								
Old Age	1	7	18	4	6	22	5	3	8	4	12	11	4	5	10	10	15	15	15	175	17	6	186	12
XIII.—Affections produced by External Causes.																								
Suicide	...	5	2	5	1	1	...	...	1	2	3	...	...	3	1	1	1	...	2	28	2	7	23	11
Poisoning by Food	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Other Acute Poisonings	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	4	...	3	1	4
Scalds and Burns (conflagration excepted)	...	16	2	1	2	...	1	...	1	...	2	2	...	...	...	2	...	1	3	33	1	16	18	30
Absorption of Deleterious Gases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	1	...
Accidental Drowning	...	1	1	...	2	...	...	...	1	...	2	...	...	1	1	...	...	...	4	13	5	8	10	1
Injury by Firearms	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	2	1	2
Injury by Cutting or Piercing Instruments	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...
Injury by Fall	2	7	5	3	4	2	1	1	3	2	4	1	1	...	...	2	3	4	4	49	2	13	38	19
Injury in Mines and Quarries	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	2	1	2
Injury by other Crushing (vehicles, railways, landslides, &c.)	2	9	1	...	3	...	2	1	2	1	...	...	...	...	1	1	...	...	2	25	3	10	18	14
Electricity (lightning excepted)	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	3	1	2	2	...
Homicide by Cutting or Piercing Instruments	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Other Violence	2	51	5	5	3	...	2	2	1	1	2	2	...	2	...	2	3	3	10	96	2	52	46	77
War—Aircraft	...	16	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	18	1	18	1	15
Shock—Air Raid	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	1	...
XIV.—Ill-defined Causes.																								
Dropsy	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	...	...	3	...	...	3	...
Syncope (aged 1 year and under 70)	...	2	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	4	...	1	3	2
Heart Failure (aged 1 year and under 70)	...	2	2	2	...	1	...	...	1	...	...	...	2	1	...	2	1	1	...	15	7	1	21	3
Atrophy, Debility, Marasmus (aged 1 year and under 70)	...	...	...	...	...	1	2	...	...	...	2	...	...	...	...	1	...	...	2	8	1	1	8	...
Teething	1	2	1	...	1	2	2	...	...	1	1	1	...	...	1	4	1	2	1	21	...	...	21	...
Other ill-defined deaths	...	1	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	4	...	...	4	2
Cause not specified	2	...	...	2	...	...	...	...	...	...	7	1	...	...	...	...	...	3	2	17	2	9	10	...
Total	61	704	413	405	298	247	258	131	293	154	442	244	95	112	211	330	274	274	311	5,257	207	693	4,771*	1,349
Nett Deaths	57	141	417	411	302	241	265	179	296	154	442	236	100	119	217	341	287	276	290	4,771*				

* Civilians only.

REPORT OF THE
CHIEF HEALTH VISITOR AND
SUPERINTENDENT OF MIDWIVES.

II.—THE CHILD.

INFANTILE MORTALITY, MATERNITY, AND
CHILD WELFARE.

INFANTILE MORTALITY.

SUMMARY OF BIRTHS, 1915.

	LEGITIMATE.			ILLEGITIMATE.			Grand Total.
	M.	F.	Total.	M.	F.	Total.	
Total Births in the Year	3,738	3,522	7,260	166	149	315	7,575
Nett ,, ,,	3,725	3,506	7,231	165	149	314	7,545

BIRTHS (UNCORRECTED) IN WARDS IN THE DIFFERENT QUARTERS OF THE YEAR 1915.

WARD.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTALS.
St. Nicholas'	13	15	13	9	50
St. Thomas'	65	71	61	54	251
St. John's	123	154	104	106	487
Stephenson	144	130	131	120	525
Armstrong	129	132	133	123	517
Elswick	63	66	75	64	268
Westgate	113	109	109	114	445
Arthur's Hill	47	48	58	40	193
Benwell	163	137	150	123	573
Fenham	92	67	110	72	341
All Saints'	160	152	119	117	548
St. Andrew's	85	105	96	65	351
Jesmond	42	49	52	31	174
Dene...	60	66	69	63	258
Heaton	101	87	79	66	333
Byker	191	164	149	140	644
St. Lawrence	157	145	136	152	590
St. Anthony's	156	141	137	129	563
Walker	119	134	113	98	464
TOTALS	2,023	1,972	1,894	1,686	7,575

DISTRIBUTION OF DEATHS.

WARDS.	Net Deaths of Children under 1 year of age in 1915.					Children under 1 year of age—Death rate per 1,000 Births.
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.	
St. Nicholas' ...	4	1	3	1	9	180
†St. Thomas' ...	10	3	5	2	20	80
St. John's	31	9	29	15	84	170
Stephenson ...	38	17	23	25	103	196
Armstrong ...	23	25	16	18	82	159
Elswick	9	7	11	11	38	142
Westgate	16	13	13	17	59	133
*Arthur's Hill ...	2	...	3	8	13	67
Benwell	27	15	18	10	70	122
Fenham	12	10	3	4	29	85
All Saints'	18	17	31	22	88	161
St. Andrew's ...	21	8	17	12	58	165
Jesmond	2	5	2	1	10	57
Dene	6	5	2	7	20	78
Heaton	12	9	6	5	32	96
Byker	32	16	16	20	84	130
St. Lawrence ...	26	20	17	17	80	136
St. Anthony's ...	23	14	14	13	64	114
‡Walker	30	21	8	6	65	140
City	342	215	237	214	1,008	133

† Includes Royal Victoria Infirmary and Fleming Memorial Hospital.

* Includes Union Workhouse. ‡ Includes City Hospital for Infectious Diseases.

All deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

TABLE IV. OF THE LOCAL GOVERNMENT BOARD.

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 1ST JANUARY, 1916.

CAUSE OF DEATH.	AGE PERIODS. GROSS. Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	Total under 1 Month.	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	Total under 1 Year of Age.	NETT (after allowing for transfers). Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	Total under 1 Month	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	Total under 1 Year of Age.	Deaths in Institutions in the City of "Residents" or "Non-Residents."
I.—General Diseases.																					
Measles	...	...	...	...	...	...	2	15	35	52	...	...	...	...	...	...	2	15	35	52	1
Scarlet Fever	...	...	...	...	...	...	1	2	1	4	...	...	...	...	...	...	1	2	1	4	3
Whooping Cough	...	...	1	2	3	5	5	13	13	39	...	...	1	2	3	5	5	13	13	39	2
Diphtheria	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	2	2	1
Erysipelas	...	...	...	1	1	1	...	...	...	2	...	...	...	1	1	1	...	...	...	2	...
Pyæmia, Septicæmia	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...
Pulmonary Tuberculosis (not acute) ...	...	...	...	...	...	...	...	3	1	4	...	...	...	...	...	...	...	3	1	4	...
Tuberculous Meningitis	...	...	...	...	...	3	1	1	4	9	...	...	...	...	...	3	1	1	3	8	1
Tuberculosis of Peritoneum and Intestines ...	...	...	...	...	...	...	8	4	5	17	...	...	...	...	...	...	8	4	5	17	1
Tuberculosis of Joints	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...
Tuberculosis of other Organs	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	..	1
Disseminated Tuberculosis...	...	...	...	...	...	1	1	...	2	4	...	...	...	...	...	1	1	...	2	4	...
Total Tuberculosis	...	..	...	...	...	4	11	9	12	36	...	...	...	...	...	4	10	9	11	34	3
Rickets, Softening of Bones	...	...	...	...	...	...	1	1	1	3	...	...	...	...	...	...	1	1	1	3	...
Syphilis	...	...	2	1	3	4	1	1	2	11	...	...	2	1	3	3	1	1	1	9	3
II.—Diseases of Nervous System and Organs of Special Sense.																					
Cerebro-Spinal Fever	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	1
Meningitis, other forms or undefined ...	...	1	...	...	1	2	3	2	5	13	...	1	...	...	1	2	3	2	5	13	...
Infantile Convulsions	25	4	4	3	36	4	11	8	1	60	25	4	4	3	36	4	11	7	1	59	3
Mastoid Disease	...	...	...	...	...	...	1	...	1	2	...	...	...	...	...	...	1	...	1	2	1
III.—Diseases of Circulatory System.																					
Pericarditis	...	...	1	...	1	...	...	...	...	1	...	...	1	...	1	...	...	...	...	1	...
Other Organic Disease of the Heart... ...	1	...	...	...	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	1	...
IV.—Diseases of Respiratory System.																					
Diseases of the Larynx	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Bronchitis	...	1	2	2	5	13	22	12	19	71	...	1	2	2	5	13	22	12	19	71	...
Broncho-pneumonia	...	...	1	1	2	5	21	34	29	91	...	...	1	1	2	5	21	34	27	89	5
Lobar Pneumonia	...	...	...	...	...	1	...	...	1	2	...	...	...	...	...	1	...	...	1	2	...
Pneumonia (type not stated)	...	...	2	...	2	1	4	8	11	26	...	...	2	...	2	1	4	8	11	26	...
Pleurisy	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
V.—Diseases of Digestive System.																					
Diseases of the Pharynx, Tonsilitis	...	...	...	...	...	...	...	1	...	1	...	..	...	...	...	...	...	...	...	...	1
Inflammation of Stomach	1	1	...	3	5	4	5	1	...	15	...	2	...	3	5	4	5	1	...	15	...
Carried forward ...	27	7	13	13	60	45	88	108	134	435	26	8	13	13	60	44	88	106	129	427	25

TABLE IV. OF THE LOCAL GOVERNMENT BOARD.—*Continued.*

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 1ST JANUARY, 1916.

CAUSE OF DEATH.	AGE PERIODS. GROSS. Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	TOTAL under 1 Month.	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	TOTAL under 1 Year of Age.	NETT (after allowing for transfers). Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	TOTAL under 1 Month.	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	TOTAL under 1 Year of Age.	Deaths in Institutions in the City of "Residents" or "Non-Residents."
Brought forward ...	27	7	13	13	60	45	88	108	134	435	26	8	13	13	60	44	88	106	129	427	25
V.—Diseases of Digestive System— *(Continued).*																					
Other Diseases of the Stomach	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...
Diarrhœa and Enteritis, *including* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	2	...	2	5	9	18	47	33	20	127	2	...	2	5	9	18	46	32	20	125	8
Hernia, Intestinal Obstruction	...	...	...	...	...	1	3	...	5	9	...	...	...	...	...	...	3	...	2	5	5
Other Diseases of the Intestines	2	...	...	...	2	...	...	...	1	3	2	...	...	...	2	...	...	...	1	3	...
VI.—Non-Venereal Diseases of Genito-Urinary System and Annexa.																					
Acute Nephritis	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...
Diseases of Genital Organs (Female) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
VII.—Diseases of Skin and Cellular Tissue.																					
Phlegmon, Acute Abscess	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Diseases of the Integumentary System ...	...	...	1	...	1	1	1	...	1	4	...	...	1	...	1	1	1	...	...	3	2
VIII.—Diseases of Bones, &c.																					
Diseases of the Bones	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	1
Other Diseases of Locomotor System ...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
IX.—Malformations.																					
Congenital Malformations	16	4	1	1	22	9	4	...	2	37	15	4	1	1	21	5	2	...	2	30	13
X.—Diseases of Early Infancy.																					
Premature Birth	137	18	10	7	172	10	2	...	...	184	135	17	10	7	169	10	2	...	...	181	10
Infantile Atrophy, Debility, and Marasmus ...	54	23	26	6	109	40	27	10	8	194	54	23	26	6	109	40	23	8	8	188	15
Icterus Neonatorum, Sclerema and Œdema Neonatorum	6	3	1	...	10	...	...	1	...	11	6	3	1	...	10	...	...	...	...	10	3
Diseases of Umbilicus, etc.	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Atelectasis	3	...	...	...	3	...	...	...	...	3	3	...	...	...	3	...	...	...	...	3	...
Injuries at Birth	6	...	2	...	8	...	...	...	...	8	6	...	2	...	8	...	...	...	...	8	...
Other Diseases peculiar to early infancy ...	1	1	1	...	3	...	...	...	...	3	1	1	1	...	3	...	...	...	...	3	...
XI.—Affections produced by External Causes.																					
Accidental Drowning	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...
Other Violence	...	...	...	...	...	1	...	...	1	2	...	...	...	...	...	1	...	...	1	2	...
XII.—Ill-Defined Causes.																					
Teething	...	...	...	...	...	...	2	7	4	13	...	...	...	...	...	...	2	7	4	13	...
Other Ill-defined Deaths	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...
TOTAL	254	56	57	32	399	128	176	160	178	1,041	250	56	57	32	395	121	169	154	169	1,008	84

SUMMARY OF MORTALITY, 1901-1915.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Death-rate of Infants *under 1 year* per 1,000 births ...	177	139	166	155	138	153	126	139	122	123	137	101	122	137	133
Death-rate of Infants *under 3 months* per 1,000 births ...	83·8	74·8	84·9	82·6	71·6	75·6	68·6	76·6	64·8	66·9	71·5	60·3	67·7	70.7	68·2
Death-rate of Infants from *Premature Birth*, per 1,000 births	20·1	20·7	25·1	20·9	19·7	22·0	21·2	24·8	19·8	18·8	21·7	19·3	22·0	19·5	24·0
Death-rate of Infants *under 1 year* per 1,000 births, from *Premature Birth* plus all *Congenital Causes** ...	40·8	51·7	62·1	60·6	52·1	61·5	43·0	44·6	42·3	42·6	43·9	48·0	57·4	51·1	56·6
Death-rate of Infants *under 1 year* per 1,000 births, from *Diarrhœa and all other Digestive Diseases*† ...	45·7	12·8	26·9	21·8	22·4	35·2	12·7	24·8	13·5	16·7	25·1	7·8	16·6	25.3	20·1

Prior to 1911, figures uncorrected for cases belonging to other districts.

* "*All Congenital Causes*" includes Syphilis, Debility at Birth, Injury at Birth, Atelectasis, Malformation of Heart, Spina Bifida, Hydrocephalus, Imperforate Anus, Cleft Palate, Hare-Lip, other Congenital Defects, and other and undefined Accidents of Childbirth.

† "*Diarrhœa and all other Digestive Diseases*" includes Diarrhœa, Dysentery, Epidemic or Zymotic Enteritis, Thrush, Starvation, Want of Breast Milk, Rickets, Sore Throat, Quinsy, Diseases of Stomach, Enteritis, Cirrhosis of Liver, Obstruction of Intestine, Peritonitis, and other Diseases of Digestive System.

For particulars of deaths, as to causes, etc., see page 44A.

DEATHS OF CHILDREN UNDER SCHOOL AGE.

The mortality rate among children, aged 1 to 5 years, in 1915 per 1,000 births in the years 1911 to 1914 (inclusive) was 21·7.

The ***Report of the Superintendent of Midwives*** *is as follows:—*

To the Medical Officer of Health.

Sir,

Herewith I beg to submit the Report of the work done for the year 1915.

MIDWIVES ACT, 1902.

Midwives Roll.—During the year 1915, 36 midwives notified the Local Supervising Authority of their intention to practise; of these 18 held the Central Midwives Board certificate, or a certificate from a recognised hospital, the remainder being on the register as *bona fide* practitioners before the passing of the Midwives Act, 1902. Only 21 act as midwives and maternity nurses, the others act as maternity nurses only. One midwife died during the year.

About ten per cent. of the midwifery work in the city is performed by the Maternity Hospital.

The number of midwives actually practising is yearly decreasing, and is quite inadequate to meet the demands, especially at the present time when the shortage of doctors is so keenly felt. It is highly advantageous to both mother and child to have the services of a trained midwife, even when a medical practitioner is in charge of the case, rather than the untrained handy woman, or neighbour, who occasionally in their zeal, overstep their bounds to the detriment of mother or child. The influence of the trained midwife in the home is of great assistance and value to the preventive work of the Health Department.

Inspection.—60 Visits were paid to the midwives at their homes, to inspect the hygienic condition of their dwellings, to see that their bags of appliances were complete and in accordance with the rules of the Central Midwives Board,

that their chart books were filled in daily recording the temperature and pulse of each patient, and that their registers were entered up correctly and to date. The results of these inspections were for the most part satisfactory; some of the older and untrained midwives have difficulty in reading the thermometer and hence the accuracy of the charts is doubtful.

Births attended by Midwives.—2,361 Live births and 47 still births were attended during the year, this being an increase of 51 in the former and 5 in the latter over last year. Midwives attended about 31 per cent. of the total births of the city.

Lectures to Midwives.—38 Weekly meetings for practising midwives were held in the office of the Department. The Superintendent of Midwives gave lectures, and an opportunity was given for discussion of work and points relating to it. These lectures were well attended, and help to bring about a closer link between the midwives and their Superintendent.

Every encouragement is given to the midwives to work in co-operation with the Health Department, as their work is a valuable corollary; frequently mothers communicate to their midwife facts which are most helpful in the investigation of pre-natal conditions. The mothers are urged to engage their midwife as early as possible, hence the midwife has the opportunity of advising her on many important points which are most beneficial to the mother, and to the expected child. Special stress is laid upon suitable food, care of the breasts, and suitable preparations in the way of clothing for the confinement. During the puerperium the midwives encourage and urge breast feeding.

The midwives are also co-operating with the Mothers' and Babies' Welcome Society by sending their patients to the Society's Maternity Centres, where conditions likely to injure the health of mother or child, at or after the coming confinement, are recognised and the patient is shown the means of counteracting them.

Notices to Local Supervisory Authority from Midwives who had sent for medical help were 167. The following were the details :—

FOR MOTHER.

Uterine Inertia	22	Abortion	1
Contracted Pelvis	1	Abnormal Presentation	15
Ante partum Hæmorrhage ...	6	Complicated Breach	1
Post ,, ,, ...	3	Ruptured Perineum	8
Placenta Prævia	4	Rise of Temperature	12
Adherent Placenta	8	Excessive Sickness	1
Eclampsia	1		—
Syncope	2		87

FOR CHILD.

Prematurity	32	Opthalmia Neonatorum	10
Immaturity...	16	Icterus Neonatorum	2
Cyanosis	7		
Congenital Deformity	6		—
Infantile Convulsions	9		82

The percentage is only 7 on the total cases. This is very low as the average is considered to be 12. This may be accounted for by the fact that many patients who suspect an abnormality, go to the Maternity Hospital for treatment.

Puerperal Septicæmia.—21 Cases were notified during the year.

Maternity and Child Welfare Centres.—There are at present in the City 7 centres of the Mothers' and Babies' Welcome Society.

Three of these, viz. :—Wharncliffe Street, Dalton Street, and Barrack Road, are both Maternity and Child Welfare Centres. A lady doctor attends weekly and holds an advisory clinic for mothers and children. During the year 1915, 199 individual mothers attended for ante-natal advice, and 134 for post-natal ; also 1000 individual children under 1 year and 977 over 12 months. Health Visitors attend each of the seven centres, weigh babies, and give advice to the mothers. Should a sickly baby come to the centre where no doctor attends, the mother is advised to bring it to the Clinic Centre as soon as possible in order that it may have further advice.

As the Health Visitor attends the Welcome situated in the district she visits she is in a position to discover the defaulters among the mothers, and so visit them at once and urge them to return. A Health talk is given weekly at the centres by the Health Visitor on simple subjects relating to the hygiene of the home, the feeding and clothing of the infant, and its general care and mothering. These lectures have been greatly appreciated by the mothers. The Mothers' and Babies' Welcome Society by its arrangements fulfils the requirements of the Local Government Board to qualify for grants towards the running cost. The Board also pays a grant of one-half the cost of the infantile mortality section of the Health Department, the Welcome Society applying for and receiving its grant through the Sanitary Committee, this ensures uniformity and close harmony of working between the two agencies and prevents over-lapping.

Pamphlets ("Advice to Mothers") and a large number of leaflets on Diarrhœa, Measles, and Fly Prevention were distributed by the Health Department Officers and others during the year, also leaflets on the "Best foods to buy during the War."

NOTIFICATION OF BIRTHS ACT, 1907.

Notifications Received.—4,411 notifications of births have been received out of a total of 7,545 registered.

Particulars of these not notified were obtained from the registrars of the sub-districts at a later date.

The following table shows from whom the notifications have been received :—

Notified by	Living Births.	Still Births.
Medical Practitioners	1,362	58
Midwives	2,361	47
Maternity Hospital	626	42
Union Infirmary...	47	2
Parents	15	...
	4,411	149

Of the total notifications received under the Act, Still Births have been in the following proportions :—1909, 4·1% ; 1910, 3·9% ; 1911, 4·1% ; 1912, 3·2% ; 1913, 3·4% ; 1914, 3·6% ; and 1915, 3·4%.

Work of the Health Visitors.—Four Health Visitors have been working in the City during the year. The 19 Wards are divided among them according to the population and each visits systematically as many as possible of the births in her district, keeping records of her visits by the card system. As soon as possible during the 2nd week in the case of a midwife's notification, and during the 3rd in a doctor's case, the Health Visitor visits the birth, to advise the mother as to the rearing of the infant. The visit is almost invariably welcomed, especially when it is a first baby, and on no account is her visit regarded as an "inspection," nor is she permitted to call herself "inspector."

The mother is encouraged to talk about her family, and the visitor tries to form in her own mind an estimate of the peculiar dangers to its health to which this baby is likely to be exposed. When the risks seem great the case is marked for early revisiting. The baby is weighed, and the mother is urged to attend the Centre at an early date.

A certain number of births visited are found to be so satisfactory that further visiting is unnecessary. Those requiring revisiting may be classed :—

(1) Infants hand-fed or partly hand-fed.
(2) Infants whose mothers are likely to give up breast feeding at an early date.
(3) Premature Infants.
(4) Infants where the family history is bad.

The Health Visitor's first duty is to advise and insist on breast feeding, for on no artificial food do children thrive as well as on human milk.

Of the 7,545 births registered 5,560 were visited once, and a total of 6,599 revisits were paid subsequently to those births that required further visits ; 281 visits were paid to

expectant mothers; 211 to children under 5, and 25 special visits. Owing to the extensiveness of their districts the Health Visitors have been unable to do as much revisiting as is desirable, hence only the very worst cases got frequent visits.

All cases of neglect, cruelty, privation or sickness were referred to the appropriate organisation, and insanitary conditions in the homes were reported to the Inpector of Nuisances.

5,182 infants born in 1914, and on the visiting list of the Department, were due to attain the age of twelve months in 1915. Of these, 303 were lost sight of, through change of address, and could not be traced. Of the remaining 4,879, 628 died, which is equivalent to an infantile mortality rate of 129 per 1,000 births, as compared with a rate of 137 for the City generally.

Influence of Housing Accommodation.—Of the 4,879 births under observation by the Health Department, 527 occurred in single-room holdings, and of these 104 died, a mortality rate of 197 per 1,000 births; of 1,834 births in two-room holdings, 306 died, a mortality rate of 167; of 1,272 births in three-room holdings, 144 died, a mortality rate of 113; and of 618 births in holdings of more than three rooms, 74 died, a mortality rate of 120.

These figures are in general accord with previous experience, and indicate in striking fashion how great a factor in the production of a high infant death rate is the single-room tenement, with its devitalising conditions. Very few of the births in the houses of over three rooms are visited, only specially unfavourable cases being placed on the list.

During the eight years 1908-1915 there have been 60,458 births and 7,708 deaths of infants under one year, giving an average infantile mortality for the whole City of 127 deaths per 1,000 births. Of these, 12,644 were under the observation of the Health Visitors throughout their first year of life. Although these included the very poorest and most unfavourably circumstanced of all, only 1,485 died, which is equivalent to a rate of 118 deaths per 1,000 births.

Of the births notified, only a relatively small proportion of those lodged in more than two rooms were included in the visiting lists, and as these were the worst circumstanced of their class, the figures in the subjoined table cannot be regarded as representative, in so far as they refer to houses of three or more than three rooms.

The following is an analysis of the housing of the above 12,644 children, with the death rate for each class :—

Year.	Living in							
	1 Room.		2 Rooms.		3 Rooms.		More than 3 Rooms.	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
1908	247	32	515	57	312	32	13	2
1909	339	53	694	86	168	32	29	3
1910	536	62	723	68	51	4	7	2
1911	462	68	794	79	77	6	20	1
1912	465	48	746	60	110	6	25	1
1913	241	40	348	28	91	3	17	3
1914	245	36	375	31	90	11	25	3
1915	527	104	1834	306	1,272	144	618	74
8 Years ...	3,062	443	6,029	715	2,171	238	754	89
Death rate per 1,000 births visited. (8 Years).	145		119		110		118	

Parental Employment.—Only a small proportion of mothers are at work during pregnancy or nursing ; the figures available do not point to the maternal employment exercising any particular influence upon the infantile mortality generally.

	At Home.	At Work.
Prior to confinement	4,114 ...	137
Following confinement	4,131 ...	120

Feeding.—The mode of feeding is interesting.

	Breast.	Mixed.	Artificial.
Children who survived 1st year—Feeding in 1st month	81% ...	11% ...	8%
Children who died in 1st year ...	68% ...	16% ...	16%
Children who survived 1st year—Feeding to 9th month	20% ...	36% ...	44%
Of 93 children who died from Diarrhœa—Feeding at time of death	50% ...	34% ...	16%

Illegitimacy.—The infantile mortality rate for legitimate children was 132 per 1,000, whereas that of the illegitimate babies was 639 per 1,000 births.

Sex.—The mortality rate among male infants was 132, and that among females 125 per 1,000 births.

It is to be noted that all the particulars given above are only in repect of infants visited by the officers of the Health Department, and do not refer to any others than those entered in their books for supervision.

The war has brought about many abnormal conditions which considerably affect the health of the infants. Overcrowding is greatly increased, especially in certain districts, owing to the influx of so many war-workers. Thorough ventilation of the sleeping rooms is very difficult to maintain owing to night work, and members of the family requiring to sleep during the daytime. The increased price of foodstuffs puts many of the necessary articles of food beyond the reach of the poorer mothers, and that, and the constant worry and anxiety cause the babies to be smaller and more delicate when born, and gives them a poorer chance of surviving.

I am, Sir,

Your obedient servant,

GEORGINA B. CAMERON,

Superintendent of Midwives.

Health Department,
Town Hall,
Newcastle-upon-Tyne.

MOTHERS' AND BABIES'
WELCOME SOCIETY.

FINANCIAL POSITION.

This Society was founded, chiefly by the efforts of Miss E. Renaud, in 1907, and its executive consists of a body of ladies, themselves practical and experienced voluntary workers, actuated by a desire to combat the maternal ignorance which is the main cause of the heavy toll of infant life among the poorer classes.

Commencing modestly with one "Welcome" or centre in the Scotswood Road neighbourhood, they have now as many as seven, and all doing most excellent work in teaching the poorest class of mother how to do the best for her baby. The teaching does not stop at baby-care, but extends to all the simple arts of humble housewifery.

So considerable an undertaking as this cannot, of course, be carried on without funds. Hitherto these were obtained entirely from voluntary subscriptions and donations; commencing last year, a sum equivalent to one half the total expenditure has been received, as a grant, from the Local Government Board, and is to be continued. The natural result of this was an immediate extension of the scope of action, two more branches being opened, and two specialist medical officers engaged to attend regularly at the various centres for consultation.

The Government grant, however, had an unexpected result, in that voluntary subscriptions began at once to show a falling off, and the onset of the war still further curtailed these to such an extent that the Society is now faced with the probability of having to close down some of its branches by the

end of March unless more money is forthcoming. Such a contingency would be a real loss to the City, especially at the present time.

Meanwhile, the Sanitary Committee also receives from the Exchequer a rebate of one half the expenditure upon their maternity and child welfare work. This is granted on the implied understanding that the Local Authority will put forth still greater efforts to lessen the wastage of child life, and never has this been more necessary for the future of the nation than now. So far, however, no extension of the work has been effected.

The ordinary income and expenditure of the two bodies is summarised in the appended statements.

BALANCE SHEET, 1915.

Income.

	£	s.	d.
1.—Exchequer Grant (L.G.B.)	242	14	4
2.—Voluntary Subscriptions	103	17	0
3.—Special Donations towards two New Branches	65	11	0
4.—Other Special Donations	30	0	0
5.—Grant from Board of Education in respect of part of a previous year (not to be repeated) ...	62	15	5
	£504	17	9
Deficit	131	7	5
	636	5	2

Expenditure.

	£	s.	d.
1. Salaries—2 Medical Officers ...	200	0	0
2. Assistant Secretary ...	85	0	0
3. 2 part-time Nurses ...	64	0	0
4. 4 Caretakers	83	4	0
5. Rents—Wharncliffe Street	26	0	0
Byker	30	0	0
Barrack Road	26	0	0
Benwell	26	0	0
Spital Tongues	5	10	0
City Road	3	0	0
Shieldfield	5	0	0
6. National Health Insurance	3	18	0
7. Other Insurances	2	0	0
8. Lighting and Cleaning	13	10	9
9. Drugs and Medical Requirements ...	15	10	0
10. Printing, Stationery, Postage ...	20	2	0
11. Sundries	27	10	5
	636	5	2

On the present basis the above expenditure is likely to remain fairly constant. On the income side, however, items 3, 4, and 5 will not recur, while 2 is likely to be seriously diminished, causing a fall in income of at least £150, and a total deficit therefore of £280.

Such a fall would further involve a corresponding decrease in the Exchequer Grant.

The crisis that is facing the Society can only be averted by one or other of the following alternatives :—

(1) Increased voluntary support, which, for reasons given above, is not to be looked for.

(2) Adoption *in toto* by the Local Authority—a step which is not recommended so long as voluntary effort is available.

(3) Direct assistance by the Local Authority.

(4) Greater economy (if possible) in working.

Owing to the large amount of gratuitous service rendered to the Society, and to extremely able organisation by the honorary Secretary (Miss Renaud) and the Executive Committee, the enterprise is, on the authority of Local Government Board Inspectors, probably the most inexpensively managed in the country. Consequently there is little to hope for from possibilities of greater economy.

There would appear to be some technical objection to the direct subsidy of a voluntary society by a Local Authority, although it is quite competent to the latter to assume financial responsibility for "a temporary supply of medicine and medical assistance for the poorer inhabitants of their district," (Public Health Act 1875, Sec. 133). As the Local Authority may also provide hospitals for the sick (Sec. 131), it is possible that responsibility for the premises whereon the medical assistance is made available would also be sanctioned. Therefore it would certainly be quite within the scope of the Sanitary Committee to consider the advisability of paying the cost under one or more of the items 1, 3, and 9 on the Expenditure side, and probably also under 5, 7, 8, and 4.

The estimated expenditure, under the head of maternity and child welfare, of the Sanitary Committee in the current year is approximately as follows:—

INFANTILE MORTALITY WORK, 1915-16.

Estimated Expenditure.

	£
Salaries—Superintendent of Midwives and 4 Health Visitors and uniforms	517
Tram Fares	20
Rent, Rates, Lighting, Heating, and Cleaning (proportion)	40
Stationery and Printing, and Sundries	57
	634
Less 50% grant from Local Government Board	317
Cost to Corporation	317

Should it be decided to become responsible for any item of the Society's expenses, such outlay would rank for 50% grant with the Sanitary Committee's other expenditure.

HAROLD KERR,

Medical Officer of Health.

Town Hall,
Newcastle-upon-Tyne,
4th October, 1915.

REPORTS OF THE
RESIDENT MEDICAL OFFICER OF THE
INFECTIOUS DISEASES HOSPITAL
AND THE TUBERCULOSIS OFFICER.

III. INFECTIOUS DISEASE.

FEVERS, FOOD-POISONING EPIDEMICS,
CITY HOSPITALS FOR INFECTIOUS DISEASES,
TUBERCULOSIS, DISINFECTION, BACTERIOLOGY.

INFECTIOUS DISEASES.

NUMBER OF CASES PER 1,000 POPULATION IN 1915.

DISTRICT.	Attack-Rate per 1,000 Population.						
	Small-pox.	Typhus.	Scarlet Fever.	Diph-theria.	Enteric Fever and Con-tinued Fever.	Puer-peral Fever.	Ery-sipelas.
England and Wales* ...	0·00	0·00	3·59	1·52	0·18	0·06	0·66
82 County Boroughs ...	0·00	0·00	3·69	1·49	0·19	0·08	0·75
NEWCASTLE-UPON-TYNE ...	...	**0·00**	**4·81**	**0·87**	**0·32**	**0·08**	**0·61**
Hull	...	...	2·13	2·41	0·34	0·07	0·68
Leeds	0·00	...	3·23	0·89	0·24	0·05	0·78
Bradford	...	...	1·77	1·51	0·34	0·11	0·84
Sheffield	...	...	4·56	2·14	0·13	0·13	0·82
Manchester	...	...	4·28	0·82	0·25	0·15	0·70
Salford	0·00	...	4·53	1·07	0·36	0·10	0·77
Liverpool	...	0·05	4·02	1·63	0·14	0·07	1·01
Nottingham	...	...	5·13	0·76	0·12	0·03	0·92
Leicester	...	...	1·47	0·68	0·06	0·09	1·48
Stoke-on-Trent	...	...	3·86	4·14	0·21	0·09	0·90
Birmingham	...	...	3·63	1·43	0·04	0·18	0·85
Cardiff	...	...	4·07	2·55	0·11	0·06	0·56
Bristol	0·08	...	3·04	1·42	0·13	0·08	0·74
Portsmouth	...	...	4·11	4·49	0·47	0·03	0·57
London	0·00	0·00	3·94	2·11	0·14	0·06	0·89
Gateshead	...	...	3·69	0·67	0·20	0·04	0·79
South Shields	...	...	8·39	0·31	0·08	0·04	0·53
Tynemouth	...	0·00	2·23	1·05	0·10	0·03	0·77
Sunderland	...	...	1·71	0·73	0·10	0·07	0·64
Middlesbrough	...	...	2·81	2·22	0·14	0·03	0·50
County of Northumberland	...	...	4·47	1·43	0·22	0·02	0·55
County of Durham ...	...	0·00	4·81	1·87	0·29	0·04	0·68

* Including cases in ports, but excluding cases among sailors and soldiers.

DEATHS (UNCORRECTED) FROM NOTIFIABLE INFECTIOUS DISEASES AND NON-NOTIFIABLE ZYMOTIC DISEASES, EXCLUSIVE OF TUBERCULOSIS.

WARD.	Small-pox.	Typhus Fever.	Enteric Fever.	Polio-myelitis	Cere-bro-Spinal Fever.	Puer-peral Fever.	Scarlet Fever.	Diph-theria.	Ery-sipelas.	Measles	Whoop-ing Cough.	Zymotic Diarrhœa (under 2 years of age).
St. Nicholas'	...	...	...	...	...	...	1	...	...	2	1	2
*St. Thomas'	...	...	2	...	2	1	1	1	...	9	...	6
St. John's	...	...	...	...	...	...	6	4	...	24	3	18
Stephenson	...	...	1	...	...	...	1	2	1	32	12	20
Armstrong	...	...	...	...	...	1	...	1	...	35	6	15
Elswick	...	...	...	...	1	1	4	2	1	7	1	4
Westgate	...	...	2	...	...	...	3	1	...	8	8	9
†Arthur's Hill	...	...	...	...	1	...	...	1	...	2	1	2
Benwell	...	...	1	...	1	3	1	3	1	25	7	7
Fenham	...	...	...	...	...	...	...	...	...	6	6	1
All Saints'	...	...	2	...	...	1	2	1	...	6	3	20
St. Andrew's	...	...	...	...	...	...	1	1	...	3	5	15
Jesmond...	...	...	...	...	...	...	2	...	...	...	...	1
Dene	...	...	...	2	...	...	...	1	...	...	1	2
Heaton	...	...	...	...	...	...	4	3	...	3	2	4
Byker	...	...	...	...	1	...	7	1	1	6	7	21
St. Lawrence	...	...	2	...	...	...	2	2	1	8	3	10
St. Anthony's	...	...	2	...	...	1	2	1	...	9	1	8
‡Walker	...	...	2	...	10	1	8	3	...	33	8	4
City	...	...	14	2	16	9	45	28	5	218	75	169

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children. † Includes Union Workhouse.

‡ Includes City Hospital for Infectious Diseases.

For particulars of deaths from **Tuberculosis** see Tables on pages 40B, 90, 92 and 95.

NOTIFIED CASES OF INFECTIOUS DISEASE,

EXCLUSIVE OF TUBERCULOSIS.

Ages of Cases of Infectious Disease Notified during the Year 1915. (Table II. of Local Government Board Returns).

Notifiable Disease.	At Ages—Years.								Total (All Ages).	
	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards	Ages not known	1915.	1914.
Diphtheria (including Membranous Croup) ...	8	72	113	50	29	1	1	1	275	362
Erysipelas	7	5	10	19	69	48	10	1	169	250
Scarlet Fever	13	309	876	161	53	2	1	1	1416	1723
Typhus Fever	...	...	...	1	...	...	...	...	1	2
Enteric Fever	...	2	35	25	30	6	...	2	100	102
Puerperal Septicæmia ...	...	...	...	8	10	...	...	3	21	16
Epidemic Cerebro-Spinal Meningitis	1	...	2	16	7	1	...	...	27	1
Ophthalmia Neonatorum	31	...	...	...	...	...	...	...	31	45†
Acute Poliomyelitis ...	1	5	1	...	...	...	...	...	7	9
Totals	30	393	1037	280	198	58	12	8	2,047	2,510*

† Notifiable from the 1st April.

* Not including Diarrhœa notifiable from 26th August to 31st October.

WARD DISTRIBUTION OF INFECTIOUS DISEASES.

(Table II. of Local Government Board Returns).

Ward.	Small-pox.	Typhus Fever.	Enteric Fever.	Polio-myelitis	Cerebro-Spinal Fever.	Puer-peral Fever.	Scarlet Fever.	Diph-theria.	Ery-sipelas.	Oph-thalmia Neona-torum.	Total.
St. Nicholas' ...	...	...	...	...	...	...	12	4	1	...	17
St. Thomas' ...	...	...	14	1	20	4	112	42	9	4	206
St. John's ...	...	1	2	...	1	...	87	16	7	1	115
Stephenson ...	...	...	11	1	...	2	62	12	15	1	104
Armstrong ...	...	...	2	1	...	3	38	21	18	2	85
Elswick ...	...	...	4	1	2	1	48	15	5	...	76
Westgate ...	...	...	6	...	...	...	101	14	8	5	134
Arthur's Hill ...	...	...	2	...	2	1	43	8	9	...	65
Benwell ...	...	...	6	...	1	4	92	40	14	2	159
Fenham ...	...	...	...	...	...	1	60	13	2	3	79
All Saints' ...	...	...	7	...	...	1	100	8	8	1	125
St. Andrew's ...	...	...	5	1	...	2	68	4	7	1	88
Jesmond ...	...	...	4	...	...	...	31	9	...	...	44
Dene	...	...	2	2	...	...	39	10	10	...	63
Heaton ..	...	...	3	...	...	...	90	16	9	1	119
Byker	...	...	4	...	...	...	119	11	13	7	154
St. Lawrence	...	...	3	...	1	...	125	15	11	2	157
St. Anthony's	...	...	21	...	...	1	71	8	9	1	111
Walker ...	...	...	4	...	...	1	118	9	14	...	146
City	...	1	100	7	27	21	1,416	275	169	31	2,047

For particulars of cases of **Tuberculosis,** see special section, pages 88 and 95.

WARD INCIDENCE OF INFECTIOUS DISEASES.

EXCLUSIVE OF TUBERCULOSIS.

WARD.	NOTIFIABLE DISEASES. Cases per 1,000 Population.									Non-notifiable Diseases. Deaths per 1,000 Population.		
	Small-pox.	Typhus Fever.	Enteric Fever.	Polio-myelitis.	Cerebro-Spinal Fever.	Puerperal Fever.	Scarlet Fever.	Diph-theria.	Ery-sipelas.	Measles.	Whoop'g Cough.	Zymotic Diarrhœa (under 2 years of age).
St. Nicholas'	...	...	...	...	..	...	3·3	1·1	0·27	0·55	0·27	0·55
*St. Thomas	...	...	0·97	0·07	1·4	0·27	7·5	2·9	0·62	0·62	...	0·38
St. John's	...	0·07	0·13	...	0·07	...	5·5	1·0	0·44	1·53	0·19	1·14
Stephenson	...	...	0·57	0·05	...	0·10	3·2	0·62	0·78	1·66	0·62	1·04
Armstrong	...	...	0·12	0·06	...	0·19	2·4	1·3	1·1	2·19	0·37	0·94
Elswick	...	...	0·31	0·08	0·15	0·08	3·7	1·2	0·39	0·54	0·08	0·30
Westgate	...	...	0·38	...	...	...	6·5	0·90	0·51	0·51	0·51	0·58
†Arthur's Hill	...	...	0·17	...	0·17	0·08	3·7	0·68	0·77	0·17	0·08	0·17
Benwell	...	...	0·32	...	0·06	...	5·1	2·2	0·78	1·39	0·39	0·39
Fenham	...	...	...	...	...	0·09	5·3	1·1	0·18	0·53	0·53	0·09
All Saints'	...	...	0·38	...	...	0·05	5·5	0·44	0·44	0·33	0·17	1·10
St. Andrew's	...	...	0·39	0·08	...	0·16	5·3	0·31	0·55	0·23	0·38	1·17
Jesmond	...	...	0·35	...	...	...	2·7	0·79	...	...	...	0·09
Dene	...	...	0·16	0·16	...	...	3·1	0·80	0·80	...	0·08	0·16
Heaton	...	...	0·19	...	...	...	5·7	1·0	0·57	0·19	0·13	0·25
Byker	...	...	0·22	...	...	...	6·6	0·61	0·72	0·34	0·39	1·17
St. Lawrence	...	...	0·16	..	0.05	...	6·8	0·82	0·60	0·44	0·16	0·55
St. Anthony's	...	...	1·3	...	...	0·06	4·4	0·50	0·55	0·56	0·06	0·49
‡Walker	...	...	0·24	...	...	0·06	7·2	0·55	0·85	2·00	0·49	0·24
City	...	0·004	0·36	0·025	0·97	0·75	5·1	0·99	0·61	0·78	0·27	0·60

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children. † Includes Union Workouse.
‡ Includes City Hospital for Infectious Diseases, Walker Gate.

For particulars of **Tuberculosis** see table on page 95.

HOUSEHOLDS AFFECTED WITH INFECTIOUS DISEASES, EXCLUSIVE OF TUBERCULOSIS.

DISEASES.	Households with						Military Cases.	Public Institutions. *	Total Cases.
	Single Cases.	2 Cases each.	3 Cases each.	4 Cases each.	5 Cases each.	7 Cases each.			
Typhus	1	...	...	...	...	...	...	...	1
Smallpox	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	804	143	42	12	3	...	83	54	1,416
Diphtheria (including MembranousCroup)	198	10	1	1	...	...	32	18	275
Enteric (or Typhoid) Fever	51	5	2	2	1	1	7	6	100
Puerperal Fever ...	15	...	...	...	...	...	...	6	21
Erysipelas	153	2	...	...	...	...	1	11	169
Epidemic Cerebro-Spinal Meningitis...	6	...	...	...	...	...	21	...	27
Poliomyelitis... ...	7	...	...	...	...	...	...	...	7
Ophthalmia Neonatorum	31	...	...	...	...	...	...	...	31
Total	1,266	160	45	15	4	1	144	95	2,047

* See page 69.

SCHOOLS AND INFECTIOUS DISEASES.—Through the courtesy of the Director of Education and of the Principal Medical Officer to the Education Committee, it has been possible to prepare the following statement, shewing the number of households affected with Scarlet Fever and Diphtheria per hundred scholars (calculated upon the average attendances).

Scarlet Fever and Diphtheria in Schools.

School.	Per cent. of Households infected with Scarlet Fever.	Per cent. of Households infected with Diphtheria.
Atkinson Road	2·4	1·0
Bath Lane	2·0	0·1
Bentinck	1·2	1·1
Blenheim Street	2·9	—
Bolam Street	3·2	0·5
Canning Street	2·9	0·4
Chillingham Road	1·5	0·7
Clarence Street	3·6	—
Cruddas Park	1·0	0·1
Diana Street	7·7	—
Delaval	0·2	0·5
Denton Road	1·8	0·6
Elswick Road	1·2	0·4
Heaton Park Road	3·1	0·5
Mitford Street	0·3	0·2
North Heaton	0·1	0·1
North View	3·3	0·4

SCARLET FEVER AND DIPHTHERIA IN SCHOOLS—(*continued*).

School.	Per cent. of Households infected with Scarlet Fever	Per cent. of Households infected with Diphtheria.
Ouseburn	2·7	0·1
Raby Street	2·9	0·3
Royal Jubilee	3·1	0·5
Saint Peter's	1·3	0·1
Sandyford Road	2·2	0·5
Shieldfield	1·4	0·1
Snow Street	1·5	0·5
South Benwell	1·6	0·9
Spital Tongues	1·7	0·4
Todd's Nook	3·5	0·6
Victoria Jubilee	2·3	0·3
Walker East	2·1	0·1
Walker West	3·3	0·5
Walker Gate	3·9	—
Welbeck Road	0·8	0·3
Westgate Hill	2·5	0·4
West Jesmond	1·2	0·3
Westmorland Road	1·9	0·2
Wingrove	2·1	0·1

The Medical Officer of Health continues to inform principals of schools of the presence of infectious diseases in the homes of their pupils, as also of the cessation of infection. A daily return of cases in the homes of scholars is also forwarded to the Principal Medical Officer of the Education Committee.

Of the households infected with Scarlet Fever, 932 contained scholars of one or other of 70 different schools in the City. Scholars of 37 of the largest elementary schools resided in upwards of 10 of such households during the year, the largest number of such households from which children attended any one school being 43.

In two schools there was infection in the households of the scholars throughout the year, in three schools during eleven months, in nine schools during ten months, and in seven schools during nine months of the year.

School Closure.—No school nor department has been closed during the year on account of infectious disease. Mild scarlet fever has been very prevalent in the City, but no one school has suffered to any marked extent.

PUBLIC INSTITUTIONS AND INFECTIOUS DISEASE.

The following notifications were received during the year :—

INSTITUTIONS, &c.	Scarlet Fever.	Enteric Fever.	Diphtheria.	Erysipelas.	Puerperal Fever.	TOTAL.
Royal Victoria Infirmary ...	7	2	5	5	4	23
Fleming Memorial Hospital, North Road...	21	3	4	...	...	28
Maternity Hospital	...	...	...	...	2	2
Northern Counties Orphanage	1	...	5	...	...	6
School for the Blind	2	...	...	...	...	2
Workhouse	1	...	...	5	...	6
City Hospital for Infectious Diseases.. (Staff)	4	1	2	...	...	7
Throat and Ear Hospital ...	1	...	2	1	...	4
Deaf and Dumb Institution ...	9	...	...	...	...	9
Isolation Hospital, Town Moor (Staff)	2	...	...	...	...	2
St. Vincent's Home	6	...	...	...	...	6
Total	54	6	18	11	6	95*

* Does not include any cases belonging to the City which could properly be assigned to their homes.

MILK SUPPLY IN RELATION TO INFECTIOUS DISEASES.

The source of the milk supply was ascertained in every case of fever and diphtheria. In no case was there reason to suspect that the milk was responsible for the conveyance of infection.

Two cases of scarlet fever occurred at two farms, the stock of milk being seized and the owners compensated.

Forty-four cases of scarlet fever occurred at other shops of various kinds, including ten public houses and thirteen general shops, and six cases of diphtheria occurred—at two sweet shops, one social club, and three other shops.

There are in the City 764 small general shops in which milk is retailed, none of them being a fit place for the purpose, but there is no means of interfering with them at present.

SCARLET FEVER.

Notifications of 1,416 cases were received during the year, and there were 40 deaths, which is equivalent to a mortality of 2·8 per cent. The type of disease was mild on the whole.

DIPHTHERIA.

275 cases were notified during the year, and 26 died, a case mortality of 9·5 per cent.

Antitoxin was distributed free to medical practitioners in the City as follows :—

Number of medical practitioners who made application for Antitoxin	48
Number of phials of Antitoxin supplied	178
Number of cases of Diphtheria notified	275
Number of cases of Diphtheria removed to Hospital ...	261
Number of Hospital cases in which Antitoxin was injected prior to admission	56

The fatality of the disease in recent years is shown in the subjoined table.

Year.	Diphtheria Cases. (All Forms).	
	Number.	Case Mortality.
1909	546	12·7%
*1910	443	9·0%
1911	507	7·5%
1912	501	6·6%
1913	368	7·6%
1914	362	7·7%
1915	275	9·5%

* Antitoxin first distributed gratis April, 1910.

Particulars of the type of the disease as noted in cases sent to hospital will be found later in the section dealing with the City Hospitals.

MEASLES.

There were 215 deaths from measles in 1915, representing a death rate of 0·77 per 1,000 population, as compared with 0·78 in 1914.

DEATHS FROM MEASLES, 1915.

MONTH.	Years of Age.							Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	Over 10.	
January ...	11	14	8	4	5	4	1	47
February ...	9	20	7	5	5	1	...	47
March ...	14	26	12	4	5	3	1	65
April	10	12	3	3	1	1	1	31
May	4	6	2	...	2	1	...	15
June	3	...	...	1	...	...	...	4
July... ...	...	1	...	...	1	...	...	2
August ...	...	...	...	...	...	1	...	1
September ...	...	...	1	...	...	...	...	1
October ...	...	...	...	...	...	...	...	...
November ...	...	...	...	...	...	...	...	...
December ...	1	1	...	...	...	...	...	2
Total ...	52	80	33	17	19	11	3	215

Measles and Rubella became compulsorily notifiable on 1st January, 1916. In future reports therefore it will be possible to form an opinion of the case mortality of these diseases.

WHOOPING COUGH.

75 deaths occurred from whooping cough. The particulars are as follows :—

MONTH.	Years of Age.						Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	
January	6	4	2	2	...	...	14
February	1	3	3	...	...	...	7
March	5	2	2	...	...	...	9
April	4	2	2	...	...	...	8
May	4	3	...	...	...	...	7
June	2	2	1	...	...	...	5
July	2	...	1	...	...	...	3
August	3	...	...	...	...	...	3
September	1	4	...	...	1	...	6
October	4	...	...	...	1	...	5
November	3	...	...	...	...	...	3
December	4	1	...	...	...	...	5
Whole Year	39	21	11	2	2	...	75

The death rate in 1915 was equivalent to 0·27 per 1,000 population, as compared with 0·28 in 1914.

ENTERIC FEVER.

100 cases were notified during the year, and there were 12 deaths, giving a death rate of 0·04 per 1,000 population, and a case mortality of 12·0 per cent.

The 100 cases occurred as follows:—7 were military, 6 were in institutions, and 87 occurred in 62 private households, of which 53 (77 cases) had water-closets, and nine (10 cases) had dry-closets. The attack rate was 1·03 cases per 1000 water-closet houses, and 1·63 cases per 1000 dry-closet houses. Ordinarily, as shown in previous years, the risk of acquiring enteric fever is at least three times as great for people living in dry-closet houses as for those with water-closets.

In 8 cases there was a history of the consumption of mussels at about the time when it was judged that infection was contracted. The shell-fish, usually eaten raw, was purchased at stalls in the Bigg Market. The original source of the mussels could not be traced.

More notable outbreaks.—Three localised outbreaks, of 13, 8, and 5 cases respectively, occurred in Pottery Bank, Blackett Street, and Hawes Street, and Back Scotswood Road.

The first comprised 8 cases in one family, and 5 among their visiting acquaintances, the infection being traced to the mother of the first family who was found to be a "carrier," since clear.

The second involved two households, closely related, living in different districts, but in constant communication. Infection here was traced to an earlier unrecognised case in one of the families.

The third included five members of one household, the first case having remained unrecognised for at least three weeks.

Inoculation against Enteric Fever.—All members of the Medical and Nursing Staff at the City Hospital are inoculated against the Bacillus Typhosus, and the vaccine has been used to a limited extent in the treatment of special cases.

During the winter 1914-15 some fifty or so nurses were inoculated, but by a series of mischances, of which the final one was temporary ill-health from a septic wound, one nurse

was missed, and by an oversight some months later found herself on duty in the enteric wards. This nurse contracted the disease, and while it is, and should be, a rare thing for infection to be acquired in hospital, it is at least significant that the only uninoculated nurse on the staff should alone fall a victim to the disease. She made a satisfactory recovery.

Of the seven military cases admitted to hospital from within the City, four had been inoculated, and all of these recovered. Of the remaining three who had not been inoculated, two died.

This low incidence among a very large number of troops under service conditions is consistent with the general experience both at home and in the expeditionary forces, and is quite without precedent in any previous mobilisation of the British army.

The almost complete absence of enteric fever in a huge fighting force is convincing evidence of the high degree of protection conferred by inoculation.

DIARRHŒA.

The summer and autumn of 1915 brought with it a rise in the incidence of diarrhœa.

There were in all 214 deaths from the disease, equal to a death rate of 0·77 per 1,000 population, and this number included 169 deaths of children under two years of age.

FOOD POISONING.

No definite cases of bacterial food poisoning, or "ptomaine" poisoning, came under notice during the year 1915, among the civil or military population.

TYPHUS.

One non-fatal case of this disease occurred during the year.

The patient was a French soldier who was taken prisoner on the western battle front and sent into Schleswig-Holstein. With a comrade he contrived to escape across the Danish frontier, reached Copenhagen, and made his way by sea to the Tyne, *via* Bergen. He had undergone severe privations, and was ill when he reached Newcastle. He was sent into hospital as a case of enteric from a small hotel.

SMALLPOX.

Smallpox was entirely absent. The following are the particulars, courteously furnished by the Clerk to the Guardians, of infant **Vaccination** in Newcastle during recent years. (Walker, which belongs to the Tynemouth Rural area for registration purposes, is not included).

Year.	Births Registered.	Successful Vaccinations.	Unsuccessful Vaccinations.	Exemption Certificates.	
				Number.	Percentage to Total Births.
1905	7,958	7,264	27	65	0·8
1906	7,721	6,733	28	92	1·2
1907	7,610	6,702	16	94	1·2
*1908	7,747	6,414	20	449	5·8
1909	7,180	5,667	30	517	7·2
1910	7,023	5,532	22	683	9·7
1911	6,604	5,002	24	767	11·6
1912	6,715	4,625	18	982	14·6
1913	6,874	4,441	7	1,173	17·0
1914	7,023	4,230	11	1,499	21·2
1915	7,116	4,487	11	1,485	20·9

* Vaccination Act, 1907, came into force.

The *Public Vaccinators* and *Vaccination Officers* for the various districts of the City are :—

Dene, Heaton and Byker Municipal Wards :—
Dr. Frank Russell, 41, Heaton Road.
Deputy—Dr. Geo. Duncan, Heaton Park Road.

St. Anthony's and St. Lawrence Municipal Wards :—
Dr. Richard Dagger, 1, Rothbury Terrace.
Deputy—Dr. L. S. Davison, 19, Heaton Road.

Walker District :—
Dr. J. R. Mitchell, Welbeck Road.
Deputy—Dr. W. T. Hall, 12, Heaton Road.

East Central :—
Dr. Frank Hawthorn, 10, Ellison Place.
Deputy—Dr. O. W. Ogden, 38, Jesmond Road.

West Central :—
Dr. James Don, 1, Grove Street.
Deputy—Dr. Jas. Hudson, 42, Crossley Terrace.

Western district :—
Dr. G. D. Newton, 2, Ellison Place.
Deputy—Dr. H. E. Fellowes, Addison Street, Heaton.

Poor Law Infirmary :—
Dr. G. P. Harlan.

Vaccination Officers :—
Western—Wm. Young, 14, Normanton Terrace.
Eastern —Wm. Garrett, 34, Harbottle Street.

ERYSIPELAS.

169 cases of this disease were notified, and there were 5 deaths.

PUERPERAL SEPTICÆMIA.

Inquiries were made concerning 15 cases in private households, 10 of which were attended in some form or other by certified midwives or uncertified handy women.

VENEREAL DISEASES.

Syphilis was stated as the cause of death in 10 cases. No deaths were assigned to "other venereal diseases."

ACUTE POLIOMYELITIS AND EPIDEMIC CEREBRO-SPINAL MENINGITIS.

	NUMBER OF CASES.																														
	0-1 Year.						1-5 Years.						5-10 Years.						10-15 Years.						15 Years and Over.						
	Male.			Female.			Male			Female.			Male.			Female.			Male.			Female.			Male.			Female.			
Total No. of Cases.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	
7	...	...	...	‡1	?	?	2	1	...	3	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Acute Poliomyelitis.
27	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	21	11	...	3	1	...	Cerebro-Spinal Fever.
Cases Removed to Isolation Hospital.	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Acute Poliomyelitis.
	1	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	1	1	...	...	...	...	18	8	...	2	...	...	Cerebro-Spinal Fever.

‡ Left City. No information as to result.

CITY HOSPITAL FOR INFECTIOUS DISEASES.

Accommodation.

Name and Situation of Hospital.	Total Available Beds.
City Hospital for Infectious Diseases, Walker Gate (including Phthisis Pavilions, 62 Beds) ...	294
Smallpox and Isolation Hospitals, Town Moor ...	172

Owing to the heavy pressure on the wards at the City Hospital, for years past it has been necessary to use the Moor Hospitals continuously to accommodate a varying number of cases of scarlet fever. In view of the danger of thus monopolising the accommodation for smallpox, in event of an outbreak of that disease, a special report was prepared in 1914, advocating a further extension at Walker Gate. Since then two temporary pavilions (described in the Report for 1914) were erected on a site adjacent, at the cost of the War Office, to enable the Hospital to deal with military cases from Newcastle and the surrounding areas.

Even so, the Moor Hospitals have been in continuous occupation throughout the year.* It is to be hoped that the temporary pavilions at Walker Gate will be taken over and continued for the use of the City after the war, as partial alleviation of an urgent need. Further permanent accommodation should be proceeded with in addition as early as possible, especially as it has now become necessary to consider seriously the provision of institutional treatment for the more necessitous cases of measles.

That the accommodation supplied, in spite of the continuous use of the Moor Hospitals, has not kept pace with the demand is well shown in the subjoined table.

YEAR.	Population of the City.	Number of Beds at City Hospital for Fever Cases.	Total Admissions (Scarlet Fever, Diphtheria, Enteric Fever, Typhus, and Continued Fever, and Cerebro-Spinal Fever).	Percentage of Notified Cases Admitted.
1890	182,866	104	219	21·3
1900	213,039	104	290	33·3
1909	263,064	172	1,090	78·0
1910	265,077	172	912	83·0
1911	267,261	172	1,110	83·1
1912	269,193	172	1,542	86·4
1913	271,295	172	1,286	88·3
1914	271,523	172	1,835	78·9
1915	278,107	232	1,886	90·5

* (See page 86.)

CITY HOSPITAL, WALKER GATE.
(Fever Pavilions).

Admissions during the year—1,886.

The *average daily number* of patients in the hospitals was 214.

RATE PER CENT. OF CASES REMOVED TO HOSPITAL TO CASES NOTIFIED.

	1890	1895	1900	1905	1910	1911	1912	1913	1914	1915
Scarlet Fever	18·4	33·0	35·0	50·1	84·5	83·8	88·0	90·6	81·4	91·3
Diphtheria	8·3	28·7	40·0	36·8	80·1	80·5	81·8	81·5	84·8	89·1
Enteric Fever	38·9	48·0	54·5	52·0	90·5	92·0	91·2	91·1	94·1	87·0
All cases of the above together with Continued and Typhus Fever, and Cerebro-Spinal Fever	21·3	34·6	38·6	47·8	83·0	83·1	86·4	88·3	82·6	90·5

Diseases and Mortality Rates.

MORTALITY OF CASES TREATED IN HOSPITAL AS COMPARED WITH CASES NOT REMOVED DURING 1915.

DISEASE.	HOSPITAL.			NOT REMOVED.		
	Total Cases (Verified).	Deaths.	Case Mortality per cent.	Total Cases (Notified).	Deaths.	Case Mortality per cent.
Scarlet Fever ...	1,305	37	2·8	111	3	2·7
Diphtheria	223	18	8·0	52	8	15·4
Enteric Fever ...	88	10	11·4	12	2	16·6

Expenses of Maintenance.—Of the patients admitted, the expense of maintenance is charged as under :—

	Cases.
To the Newcastle Sanitary Authority	1,532
To private guarantors	5
To the War Office	349
TOTAL	1,886

1915.

Diseases Admitted.

Cases sent in as:—	Number.	Cases Admitted Proved after Observation to be:																														
		Scarlet Fever.	Scarlet Fever Contacts.	Diphtheria.	Mumps.	Other Mouth and Throat Affections.	Syphilis.	Ophthalmia Neonatorum.	Ophthalmia Neonatorum Contacts.	Enteric Fever.	Enteric Fever Contacts.	Other Alimentary Disorders.	Typhus.	Influenza.	Pulmonary Conditions	Malaria.	Cerebro-Spinal Fever.	Cerebro-Spinal Fever Carriers.	Other Forms of Meningitis.	Polio-myelitis.	Cerebral Hæmorrhage.	Alcoholic Coma.	Mania.	Rickets.	Measles.	Rubella.	Erysipelas.	Cellulitis.	Osteo-myelitis.	Septicæmia.	Skin Diseases.	Indefinite.
Scarlet Fever	1317	1297	...	1	...	9	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	3	2
Scarlet Fever Contacts .	3	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	261	7	...	222	...	27	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
Mumps	4	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	108	...	...	...	...	...	...	...	...	87	3	7	1	...	2	1	...	...	1	...	1	...	...	...	...	...	...	...	1	1	...	3
Enteric Fever Contacts .	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever ...	38	1	...	...	...	3	...	...	...	...	...	2	...	2	1	...	23	...	1	...	...	1	1	1	1	...	...	...	...	1	...	...
Cerebro-Spinal Fever Contacts ...	76	...	...	...	...	...	...	...	...	...	...	2	...	1	1	...	...	71	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Polio-myelitis	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Measles	65	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	43	20	...	...	...	...	...	1
Rubella	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	1	...	...	...	...
Ophthalmia Neonatorum	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia Neonatorum Contacts ...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS ...	1886	1305	2	223	4	41	1	1	1	88	5	11	1	4	7	2	23	71	2	2	1	1	1	1	48	20	6	1	1	2	3	7

Monthly Admissions and Deaths.

DISEASE.	Jan.		Feb.		Mar.		April.		May.		June.		July		Aug.		Sept.		Oct,		Nov.		Dec.		Total.	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Scarlet Fever and Contacts	91	2	92	5	102	4	101	4	108	4	110	...	119	2	105	3	121	4	161	3	101	4	96	2	1307	37
Diptheria	28	3	22	2	18	...	21	1	23	5	7	...	15	1	17	1	22	2	16	3	18	...	16	...	223	18
Mumps	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	...	4	...
Other Mouth and Throat Affections	6	...	4	...	4	...	2	...	1	...	...	...	4	1	4	...	3	...	5	1	5	...	3	...	41	2
Syphilis	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Opthalmia Neonatorum & Contacts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Enteric Fever and Carriers	25	3	14	1	6	...	3	...	4	...	3	...	2	1	11	2	9	...	6	1	7	2	3	...	93	10
Other Alimentary Disorders	...	...	...	...	3	...	...	...	2	...	...	...	1	...	...	...	1	...	...	...	3	1	1	...	11	1
Typhus	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Influenza	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	4	...
Pulmonary Cond'ns	1	1	...	...	1	...	...	...	...	...	...	...	1	1	...	...	1	1	1	...	1	...	1	1	7	4
Malaria	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...
Cerebro-Spinal Fever & Carriers	...	...	4	2	45	5	7	...	14	1	15	2	1	...	...	...	2	1	3	1	...	...	3	...	94	12
Other forms of Meningitis & Brain Disease	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...	...	...	...	1	1	1	...	...	...	4	3
Alcoholic Coma	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Polio-myelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	2	...
Rickets	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Measles / Rubella	...	...	2	1	...	...	3	...	14	...	33	...	7	...	2	...	...	...	2	...	...	...	5	...	68	1
Erysipelas	...	...	1	...	...	...	2	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	6	...
Septic Conditions	1	1	...	...	...	...	...	...	1	1	1	...	...	...	1	1	...	...	...	...	...	...	...	...	4	3
Skin Diseases	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	3	...
Indefinite	...	...	...	...	...	...	1	...	1	...	3	...	...	...	2	...	...	...	...	...	...	...	...	...	7	...
Totals	152	10	139	11	179	9	142	6	173	12	175	2	153	6	144	7	160	8	196	10	137	7	136	3	1886	91

City Hospital Staff.—The above figures include 3 cases of Scarlet Fever among nurses and 1 in a maid; 1 case of Enteric Fever in a nurse; and 2 cases of Diphtheria and 1 of Influenza (suspected Scarlet Fever) in maids. All recovered.

NOTE.—The deaths given above for each month refer to patients admitted during that month only, and have no reference to the actual number of deaths in that month.

Length of stay in Hospital of fatal cases.—Of the foregoing, the following *died within 24 hours of admission*—Scarlet Fever 3, Diphtheria 6, Enteric Fever 1, Cerebro-Spinal Fever 2, Cerebral Hæmorrhage 1, and Measles 1.—Total 14.

The average time in hospital of the fatal cases was—Scarlet Fever 15 days, Diphtheria 5 days, Enteric Fever 10 days, and Cerebro-Spinal Fever 17 days.

The following are the particulars of the *Military Cases* (included in the foregoing large tables):—

MILITARY CASES ADMITTED.

Disease for which admitted.	Cases.	Deaths.
Scarlet Fever	107	...
Diphtheria	48	...
Mumps	4	...
Enteric Fever	13	2
Cerebro-Spinal Fever ...	23	11
Cerebro-Spinal Fever Carrier	81	1
Measles	66	...
Erysipelas	7	...
TOTAL	349	14

Present Death Rates compared with those of 20 years ago—

RETURN SHEWING THE NUMBER OF CASES OF SCARLET FEVER, DIPHTHERIA, AND ENTERIC FEVER ADMITTED TO HOSPITAL, AND MORTALITY RATES PER CENT.

1891-1895.

YEAR.	Number of Cases admitted to Hospital.			Number of Deaths.			Case Mortality, per cent.		
	Scarlet Fever.	Diph-theria.	Enteric Fever.	Scarlet Fever.	Diph-theria.	Enteric Fever.	Scarlet Fever.	Diph-theria.	Enteric Fever.
1891	110	10	67	5	6	6	4·5	60·0	8·9
1892	244	18	26	8	5	5	3·3	27·8	19·2
1893	202	15	49	5	2	6	2·5	13·3	12·2
1894	230	8	60	6	3	13	2·6	37·5	21·7
1895	319	41	75	10	10	21	3·1	24·4	28·0
	1,105	92	277	34	26	51	3·1	28·3	18·4
1911-1915.									
1911	605	375	68	14	33	11	2·3	8·8	16·2
1912	1,018	383	82	34	27	13	3·3	7·0	15·8
1913	853	254	09	21	22	12	2·5	8·7	11·0
1914	1,404	251	186	43	21	13	3·1	8·4	15·1
1915	1,305	223	88	37	18	10	2·8	8·0	11·4
	5,185	1,486	433	149	121	59	2·9	8·1	13·6

Diphtheria.—*Cases in Hospital.*—Of the 223 patients in Hospital, 170 were faucial, pharyngeal, or nasal cases, and of these 7, or 4·1 per cent., died. 53 were also laryngeal or tracheal, and of these 11, or 20·8 per cent., died. Tracheotomy was performed on 15 patients, of whom 7, or 46·6 per cent., died. It is of interest to note that of 18 cases in which the nasal passages were involved 5 died, a case mortality of 27·7 per cent.

Of the 18 deaths, 6 were of patients practically moribund on admission, who died within 24 hours.

As hitherto, the patients sent to Hospital, generally speaking, came from much less favourable surroundings than those treated at home, and suffered from a severer type of the disease.

Antitoxin is administered to all cases of Diphtheria admitted to Hospital which have not received the remedy at home. Owing to the free supply of Antitoxin to private medical practitioners, patients receive the treatment earlier than previously.

Bacteriological diagnosis is made in the great majority of cases before admission.

Mixed Infection.—49 patients sent into Hospital, or 2·6 per cent., were found on admission to be suffering from two or more distinct infectious diseases, as follows:—

Scarlet Fever and Diphtheria	8
Scarlet Fever and Measles	6
Scarlet Fever and Rubella	2
Scarlet Fever and Varicella	2
Scarlet Fever and Parotitis	1
Scarlet Fever and Tuberculous Peritonitis	2
Scarlet Fever and Vaginitis	2
Scarlet Fever and Ringworm	7
Scarlet Fever and Impetigo	5
Scarlet Fever and Scabies	3
Scarlet Fever and Septic Sores	1
Scarlet Fever and Cellulitis	1
Diphtheria and Scarlet Fever	2
Diphtheria and Pertussis	1
Diphtheria and Varicella	4
Diphtheria and Congenital Syphilis	1
Diphtheria and Cellulitis	1

Thus, 3·1 per cent. of the cases of scarlet fever, on admission, suffered from another infectious condition as well, and 4·0 per cent. of the cases of diphtheria.

Deaths from Concurrent Affections.—Out of the total number of deaths from all causes in hospital (91), 7, or 7·7 per cent., were of patients suffering from a concurrent affection directly or partially causative of the fatal termination. These were as follows :—

DEATHS WITH CONCURRENT AFFECTIONS,

Scarlet Fever with Measles	1
Scarlet Fever with Varicella (Septic)...	1
Scarlet Fever with Chorea	1
Scarlet Fever with Lobar Pneumonia	1
Diphtheria with Broncho-Pneumonia	2
Measles with Pneumonia	1

Cross Infection.—It is always noted that when the wards are kept uniformly full, as in years of high admissions, the proportion of cross infections is also higher than ordinary. This has happened during the year under report, when 44 patients developed a second infection in the wards; of these 4 were incubating the second disease on admission, the remaining 40, or 2·1 per cent. of all cases admitted, acquiring the second infection in hospital, many of them from the incubating cases admitted.

Strong efforts were made to deal with all such cases by means of the "barrier" system of "bed isolation," a method, however, which depends for success entirely upon the personal element, and requires the most rigorous and laborious observances of minutiæ of regime.

Particulars of cases are shown in the following table :—

CROSS INFECTIONS.

Sent in as	Developed.	Number of Cases.	Number Infected in Hospital.
Scarlet Fever	Scarlet Fever	4	4
Scarlet Fever	Ringworm	1	1
Scarlet Fever	Diphtheria	1	1
Scarlet Fever	Measles	4	4
Scarlet Fever	Rubella	1	1
Scarlet Fever	Varicella	14	12
Scarlet Fever	Pertussis	1	1
Scarlet Fever	Erysipelas	2	2
Diphtheria	Scarlet Fever	9	8
Diphtheria	Varicella	5	4
Diphtheria	Pertussis	2	2
	TOTAL	44	40

Of 1,317 cases sent in as scarlet fever, 2, or 0·15 per cent., were incubating a second disease, and 26, or 2·0 per cent., were infected in hospital. Of these 26, 4 (or 0·3 per cent. of all cases sent in as scarlet fever) were diagnosed by the private practitioner as mild cases of that disease on the strength of symptoms stated to have disappeared before removal of the patient.

Of 261 cases sent in as diphtheria, 2, or 0·8 per cent., were incubating a second disease, and 14, or 5·4 per cent., were infected in hospital.

"Return" Cases.—The following are details of the "return" cases during the year:—

"Return" Cases of Scarlet Fever, 1915.

Scarlet Fever.	"Infecting" Cases.		"Return" Cases.		"Infecting" Cases.
Total Admissions.	No.	Per-centage.	No.	Per-centage.	Average Day of Disease when Discharged.
1,305	43	3·3	49	3·7	46·4

Seasonal Occurrence.

Quarter.	Total Scarlet Fever Admissions.	"Infecting" Cases.		"Return" Cases.	
		No.	Percentage.	No.	Percentage.
January to March ...	284	6	2·1	7	2·5
April to June	319	13	4·1	15	4·7
July to September ...	345	8	2·3	9	2·6
October to December ...	357	16	4·5	18	5·0

Of the 43 "infecting" cases 24 remained "clean," *i.e.* free from any apparent infective condition such as sores or discharges. 13 developed nasal discharge after reaching home, 2 otorrhœa, 1 nasal discharge and otorrhœa, and 3 septic sores. In the 24 "clean" cases, the period before onset of illness of the second or "return" case after discharge from Hospital of

the supposed "infecting" case averaged 9·2 days, and in the "dirty" cases 9·0 days.

The "clean" cases had been discharged from hospital on the (average) 43rd day of disease, and the "dirty" cases on the (average) 52nd day.

"Return" Cases for Years 1906-1915.

Year.	Total Scarlet Fever Admitted.	"Infecting" Cases.		"Return" Cases.	
		No.	Percentage.	No.	Percentage.
1906	442	7	1·6	10	2·3
1907	390	11	2·8	17	4·4
1908	283	4	1·4	5	1·8
1909	623	23	3·7	30	4·8
1910	465	18	3·9	20	4·3
1911	605	26	4·3	30	4·9
1912	1,018	47	4·6	52	5·1
1913	853	23	2·7	24	2·8
1914	1,404	78	5·6	96	6·8
1915	1,305	43	3·3	49	3·7

Hospital and Home "Isolation" Compared.

In order to determine the relative liability to further infection, subsequent to the first, in hospital- and home-isolating households respectively, a careful record has been kept for three years of the number of presumably susceptible persons in each invaded house, all, other than the original patient, below 12 years of age being so classed, and the proportionate incidence of secondary cases calculated.

Cases occurring within seven days of the "isolation" of the original case were not counted, as these probably acquired their infection before the influence of the "isolation" could be felt.

Cases occurring subsequently to the seventh day of "isolation" of the original case, and prior to the release of the latter, were classed as "incidental" infections.

Cases occurring within 28 days after the release of the original case from "isolation" were classed as "return" infections.

The following table shows the results obtained :—

Year	1913.		1914.		1915.		3 Years.	
Patient "isolated" at	Hospital	Home	Hospital	Home	Hospital	Home	Hospital	Home
"Susceptibles" in the homes of each class of patient	1131	53	1708	244	1462	86	4301	373
"Incidental" infections	69	3	78	28	85	7	232	38
Percentage of "incidentals" to "susceptibles"	6·1	5·7	4·6	11·5	5·8	8·1	5·4	10·2
"Return" Infections	29	...	84	...	55	2	168	2
Percentage of "returns" to "susceptibles"	2·6	...	4·9	...	3·8	2·3	3·9	0·5
Total of "incidental" and "return" infections	98	3	162	28	140	9	400	40
Percentage of this total to "susceptibles"	8·7	5·7	9·5	11·5	9·6	10 5	9·3	10·7

Thus it is seen, on three years working, that there are fewer secondary cases in the households which send their first case to hospital. This difference is the more marked when one analyses the relative housing accommodation of the two classes. Thus for every "susceptible" remaining at home among the hospital-isolating class, there were on an average at least 2·1 rooms, whereas in the home-isolating class there was an average of at least 4·6 rooms for each "susceptible," the home class having therefore more than twice the accommodation of the others, and being in fact selected on that account. If, therefore, home isolation were as efficient, case for case, as hospital, one would have expected to find a great preponderance in favour of the home class in the above evidence, instead of which the result is entirely the other way.

Average stay in Hospital during the last nine years.

Year.	All Cases.		Scarlet Fever.		Diphtheria.		Enteric Fever.		Other Diseases.	
	No.	Average Stay in Days.	No.	Average Stay in Days.	No.	Average Stay in Days.	No.	Average Stay in Days.	No.	Average Stay in Days.
1907	647	52·4	390	59·7	177	42·4	35	39·9	46	39·2
1908	614	48·4	283	56·3	220	40·0	88	48·5	25	31·8
1909	1,090	49·2	623	54·3	334	41·6	56	45·9	78	42·8
1910	912	44·4	465	51·3	317	37·2	47	46·4	83	32·5
1911	1,110	45·6	605	50·5	375	41·9	68	44·4	62	20·2
1912	1,542	45·8	1,018	46·1	383	45·7	82	46·2	59	20·9
1913	1,286	45·5	853	47·6	254	47·9	109	43·4	70	19·6
1914	1,835	41·6	1,404	44·4	251	34·4	86	41·2	94	20·2
1915	1,886	41·3	1.305	47·1	223	35·6	88	44·0	271	17·2

Bacteriological Laboratory, City Hospital.

The following examinations were made in connection with the patients in the fever wards:—

Swabs for Diphtheria germs	901
Blood for Widal reaction (Enteric Fever) ...	1
Cerebro-Spinal Fluid, for Meningococci and Cells	4
Sputum, for Tubercle Bacilli...	180
Pus for Gonococci	1
TOTAL	1087

SMALLPOX AND ISOLATION HOSPITALS.

Owing to the insufficiency of the accommodation for scarlet fever at Walker Gate, recourse was had, as usual, to the hospitals on the Town Moor.

The total number of beds in the scarlet fever pavilions at the City Hospital is 75, including an observation block, together with another possible 60 beds in the temporary "military" pavilions, and the average daily number of scarlet fever patients in hospital during 1915 was 168. Accordingly "clean" convalescent cases were sent to the Moor throughout the year, 637 patients in all being thus transferred, as compared with 909 in 1914, and 416 in 1913, and 528 in 1912.

TUBERCULOSIS.

Report of the Tuberculosis Medical Officer.

To the Medical Officer of Health.

Sir,

Herewith I beg to submit my Report on the work of the Tuberculosis section during the year 1915.

The Combined Scheme has worked harmoniously and well, and it is hoped and anticipated that before many years its operation will begin to bear fruit in the shape of a reduction of the phthisis mortality.

In spite of the peculiar conditions, the work accomplished during the year very nearly equalled that of 1914.

The personnel of the staff has remained unchanged, and one and all have worked hard to the one end.

The new premises at Ridley Villas have been found admirably adapted for the work.

Again, Sir, let me thank you for your continued interest in the work of this department and your willing and valued counsel when difficulties have arisen.

Your obedient servant,

William H. Dickinson, M.B., D.P.H.,

Tuberculosis Medical Officer.

REPORT.

Notifications.—1,108 notifications of tuberculosis were received by the Medical Officer of Health, but some of the patients had already been notified, so that the total number of new cases was 964, of whom 612 were certified to be suffering from pulmonary, and 352 from other forms of tuberculosis.

The details are set forth in the accompanying tables :—

Summary of Notifications during the Period, 1st January to 31st December, 1915.

Age Periods.	Number of Notifications on Form "A."													Number of Notifications on Form "B."					Number of Notifications on Form "C."		Number of Notifications on Form "D."	
	Primary Notifications.												Total Notifications (including Cases previously notified by other doctors).	Primary Notifications.				Total Notifications (including Cases previously notified by other doctors).	Poor Law Institutions.	Sanatoria.	Poor Law Institutions.	Sanatoria.
	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.	Total.		Under 5	5 to 10.	10 to 15.	Total.					
Pulmonary—																						
Males	3	7	25	19	36	34	67	78	54	37	7	367	429	During the year the School Medical Officer referred all suspicious cases to the Tuberculosis Medical Officer.					112	74	62	79
Females ..	1	11	13	28	28	21	57	41	31	10	4	245	296						28	40	16	41
Non-Pulmonary—																						
Males	20	52	35	30	15	14	3	1	3	4	2	179	198						7	6	9	4
Females ...	20	39	30	25	23	15	13	7	1	...	...	173	185						4	6	4	2
Total	44	109	103	102	102	84	140	127	89	51	13	964	1,108						151	126	91	126

Form "A."—Notification by any Medical Practitioner of a case of Tuberculosis (whether at an Institution or otherwise).

Form "B."—Notification by School Medical Officers of cases of Tuberculosis in children attending Public Elementary Schools of which he has become aware in the course of inspection.

Form "C."—Notification by the Medical Officers of Poor Law Institutions and Sanatoria of persons admitted who are suffering from Tuberculosis.

Form "D."—Notifications by the Medical Officers of Poor Law Institutions and Sanatoria of persons discharged who are suffering from Tuberculosis.

NOTIFICATIONS—ORIGINAL AND REPEATED.

Year.	TOTAL.	Nett New Notifications.	Notified twice.	Notified three times.	Notified four times.	Notified five times.	Notified six times.	Notified seven times.
1912	1,249	972	192	59	18	6	1	1
*1913	1,441	1,246	158	26	9	2	...	...
1914	1,060	958	88	13	...	1	...	...
1915	1,108	964	131	9	4	...	...	...

*On February 1st, 1913, all forms of Tuberculosis became notifiable.

SOURCE OF NOTIFICATIONS OF NETT CASES.

Year.	Total Number of Nett Cases Notified.	Notified by Medical Practitioners.	Notified by the Tuberculosis Medical Officer.	From Other Sources than Medical Practitioners, Death Returns, etc.
1912	972	893	Nil.	79
1913	1,246	957	140	149
1914	958	624	180	154
1915	964	694	146	124

Deaths.—During the year 562 deaths (uncorrected) were registered as due to some form of tuberculosis. Of this number, 95 were insured persons.

Of these, 378 were certified as due to pulmonary tuberculosis (including 13 cases of acute phthisis) and 184 to other forms of the disease.

The death rates per 1,000 population were as under:—

Pulmonary Tuberculosis	1·36
Other Forms of Tuberculosis	0·66
Total Tuberculosis Death Rate (uncorrected) ...	2·02

The details as to the parts affected and the age periods are given on the following page.

DEATHS (UNCORRECTED)—CLASSIFICATION ACCORDING TO AGE AND TYPE.

	Under 1 year.	1 to 2 years.	2 to 5 years.	5 to 15 years.	15 to 25 years.	25 to 45 years.	45 to 65 years.	65 years and upwards.	TOTAL.
Pulmonary Tuberculosis (not acute)	4	3	5	28	63	164	87	11	365
Acute Phthisis	...	...	1	2	1	5	4	...	13
Acute Miliary Tuberculosis	...	2	2	1	1	1	1	...	8
Tuberculous Meningitis	9	10	16	24	6	2	...	...	67
Tuberculosis of Peritoneum and Intestines ...	17	11	15	17	9	4	...	...	73
Tuberculosis of Spinal Column	...	1	...	...	1	...	1	...	3
Tuberculosis of Joints	1	...	1	3	3	2	...	1	11
Tuberculosis of other Organs	1	2	...	1	1	1	3	1	10
Disseminated Tuberculosis	4	2	...	3	1	1	...	1	12
									562
SUMMARY.									
Pulmonary	4	3	6	30	64	169	91	11	378
Non-Pulmonary	32	28	34	49	22	11	5	3	184
									562

It must be noted, however, that 21 residents of Newcastle died in other parts of the United Kingdom from tuberculosis (16 pulmonary; 5 other forms), while 41 of the deaths (14 pulmonary; 27 other forms) registered in Newcastle were those of temporary residents.

The corrected deaths and death rates per 1,000 of the population were:—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	380	1·37
Other Forms	162	0.58
All forms of Tuberculosis (corrected)	542	1·95

The reason for the differences between the uncorrected and corrected figures for the two sub-divisions is that patients with pulmonary tuberculosis leave the city for the fresh air of the country, while persons from the surrounding districts, suffering from surgical tuberculosis, flock to the Royal Victoria Infirmary and other hospitals for active treatment.

Occupations.—The occupations of 353 persons who died during the year were ascertained to be as follows:—

OCCUPATION OF PERSONS WHO DIED FROM TUBERCULOSIS DURING THE YEAR 1915.

Trade or Occupation.	No.	Trade or Occupation.	No.	Trade or Occupation.	No.
Housewives ...	72	Brought forward.	290	Brought forward..	327
Labourers	41	Dentists	2	Dressmaker ...	1
Scholars	36	Firemen	2	Drill Master ...	1
Under 5 years ...	20	Housekeepers ...	2	Glass Beveller ...	1
No Occupation ...	19	Laundresses ...	2	Grocer	1
Clerks	14	Motormen	2	Hairdresser ...	1
Engineer	9	Packers	2	Holder-up	1
Machinists... ...	8	Plumbers	2	Irondresser ...	1
Barmen	7	Platers' Helpers ...	2	Insurance Agent ...	1
Cartmen	6	Policemen	2	Librarian	1
Painters	6	Shoemakers ...	2	Musician	1
Domestic Servants	5	Strikers	2	Organ Builder ...	1
Joiners	5	Actor	1	Pottery Worker ...	1
Commercial Trav's.	5	Brewer	1	Patternmaker ...	1
Munition Workers	4	Bricklayer... ...	1	Plater	1
Warehousemen ...	4	Blacksmith ...	1	Rag Sorter ...	1
Charwomen ...	3	Boiler Coverer ...	1	Rivet Heater ...	1
Hawkers	3	Boxmaker	1	Stableman... ...	1
Miners	3	Bookbinder ...	1	Seaman	1
Shop Assistants ...	3	Boiler Cleaner ...	1	Shunter	1
Tailors	3	Boilermaker ...	1	Signalman... ...	1
Porters	3	Chemist	1	Schoolmaster ...	1
Stonemasons ...	3	Chimney Sweep ...	1	Shipwright ...	1
Bakers	2	Commissionaire ...	1	Tobacco Stripper...	1
Brassfinishers ...	2	Chef	1	Turner	1
Brushmakers ...	2	Caretaker	1	Waitress	1
Cabinetmakers ...	2	Draper	1	Window Cleaner ...	1
Carried forward...	290	Carried forward...	327	Total... ...	353

The deaths from "other forms" of tuberculosis were evenly divided between the two sexes, but 50 per cent. occurred before the age of 5 years.

The details appear in the following Table:—

DEATHS FROM TUBERCULOSIS.

SEX AND AGE DISTRIBUTION.

Lungs.

Year.	Sex.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and over	TOTAL.	Cases Notified.	Death rate per 1,000 of population (corrected)
1912	Male ...	...	5	6	6	15	25	49	39	40	11	5	201	541	1·33
	Female ...	1	4	8	10	18	22	33	27	16	7	3	149	431	
1913	Male ...	1	9	5	5	6	14	43	37	35	10	6	171	453	1·20
	Female ...	...	4	5	8	17	11	35	26	13	6	1	126	343	
1914	Male ...	...	3	4	3	14	14	47	59	47	15	4	210	398	1·38
	Female ...	1	6	7	13	15	17	32	25	19	6	...	141	267	
1915	Male ...	3	3	7	5	15	22	53	59	39	23	10	239	367	1·37
	Female ...	1	4	4	12	12	9	25	31	22	7	1	128	245	

Other Forms.

Year.	Sex.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and over	TOTAL.	Cases Notified.	Death rate per 1,000 of population (corrected)
1912	Not a notifiable disease.														
1913	Male ...	15	29	12	6	4	1	6	4	2	1	4	84	254	0·56
	Female ...	14	24	8	8	2	2	5	4	1	...	...	68	196	
1914	Male ...	13	25	14	7	5	7	4	3	2	1	1	82	135	0·57
	Female ...	17	22	13	9	2	3	3	...	3	2	...	74	158	
1915	Male ...	12	30	16	7	4	2	3	1	2	1	3	81	179	0·58
	Female ...	17	28	10	7	8	2	4	3	2	...	...	81	173	

N.B.—The above only includes those persons who were residents of and died in Newcastle-upon-Tyne.

Duration of Illness.—After every death from pulmonary tuberculosis, enquiry was directed, when possible, to the length of time the deceased had been ill. The average duration of illness in such cases during 1915 was 26 months, in 1914, 23 months, while in 1913 it was approximately 26 months, and in 1912, 28 months.

Family History.—In 158 instances amongst the 353 cases investigated after death, *i.e.*, in 44·75% there was a history that some near relation was suffering from or had died of pulmonary tuberculosis. Where one or both parents were phthisical, the average age at death was 26 years, as compared with 33 years attained by those of non-phthisical parentage.

DEATHS FROM TUBERCULOSIS; GIVING THE NUMBER OF CASES WHO HAD RELATIONS WHO DIED, OR WHO ARE ILL WITH TUBERCULOSIS.

Year.	No. of enquiries.	No. of cases who had relations with T.B.	Percentage to No. of enquiries.
1913	251	82	32·66
1914	313	132	42·17
1915	353	158	44.75

AVERAGE PERIOD OF LIFE OF PERSONS ONE OR BOTH OF WHOSE PARENTS DIED OF TUBERCULOSIS AS COMPARED WITH THOSE WHO HAD NO SUCH HISTORY.

Year.	No. of cases where enquiries were made.	No. of cases where parent had died of Tuberculosis	Average period of life of same in years.	No. of cases where parent had not died of Tuberculosis.	Average period of life of same in years.
1913	251	26	24	225	34
1914	313	48	25·5	265	32
1915	353	56	26	297	33

Notification-Death Ratio.—As there were 612 (nett) notifications of pulmonary tuberculosis, and 380 deaths, the ratio of notifications to deaths was as 1·61 to 1.

During the year there were 352 (nett) notifications of other forms of tuberculosis, and 162 deaths, the notification-death ratio was as 2·2 to 1.

TABLE SHOWING NUMBER OF DEATHS FROM TUBERCULOSIS AND NUMBER WHO WERE ATTENDED FROM THE DISPENSARY.

Year.	Deaths (uncorrected).			Attended Dispensary.	Visited by Nurses, but never attended Dispensary.	Total.	The percentage of cases known to Dispensary to the number of deaths.
	Lungs.	Other Forms	Total,				
1913	311	170	481	63	188	251	52·18
1914	365	170	535	158	66	224	41·87
1915	378	184	562	206	64	270	48·04

Deaths in Institutions.—75 patients died of phthisis in the Union Infirmary, and 17 in the phthisis pavilions at Walker Gate.

There can be no doubt that the increased use of such hospitals, by patients in the later stages of consumption, is likely to have a good effect on the phthisis death rate, for while the sufferer is well looked after, the dependants are freed from further risk of infection and are better able to earn sufficient money to provide the necessaries of life.

Ward Distribution of Tuberculosis.—Considerable interest attaches to the prevalence of tuberculosis in the various wards of the city, and a table has been prepared showing, for each ward, the estimated populations, the number of notifications and deaths, together with the rates per thousand, and also the number of insured persons who have applied for sanatorium benefit, the number on the Dispensary register, and the number of persons whose sputum has been examined and found to contain tubercle bacilli.

It will be apparent at once from the table that the death-rate per thousand population (which in the case of tuberculosis is of far more practical value than the notified incidence per thousand) is much higher in the poorer and more congested wards than in those enjoying more favourable conditions.

WARD DISTRIBUTION OF TUBERCULOSIS.

WARD.	Population estimated on Registrar General's figures for 1915.	NOTIFICATIONS.						DEATHS.						Application for Sanatorium. Benefit.	Persons on Dispensary Register.	Sputa examined with positive result.
		Pulmonary.	Attack rate per 1,000 of population.	Non-Pulmonary.	Attack rate per 1,000 of population.	Total.	Attack rate per 1,000 of population.	Pulmonary.	Death rate per 1,000 of population.	Non-Pulmonary.	Death rate per 1,000 of population.	Total.	Death rate per 1,000 of population.			
St. Nicholas	3,656	14	3·83	6	1·64	20	5·47	7	1·91	1	0·27	8	2·18	4	8	3
St. Thomas	14,449	8	0·55	8	0·55	16	1·10	8	0·55	2	0·14	10	0·69	4	14	3
St. John's	15,725	54	3·44	23	1·46	77	4·09	37	2·35	12	0·76	49	3·11	12	44	22
Stephenson	19,205	41	2·14	33	1·72	74	3·86	28	1·45	23	1·19	51	2·65	13	56	24
Armstrong...	16,003	41	2·56	29	1·81	70	4·37	19	1·18	16	1·00	35	2·18	13	51	17
Elswick	12,955	34	2·62	11	0·85	45	3·47	17	1·31	6	0·46	23	1·77	12	41	16
Westgate	15,635	30	1·92	21	1·34	51	3·26	21	1·34	10	0·64	31	1·98	10	34	13
Arthur's Hill	11,704	17	1·45	9	0·77	26	2·22	14	1·20	6	0·51	20	1·71	2	9	3
Benwell	18,010	40	2·22	32	1·78	72	4·00	23	1·27	16	0·89	39	2·16	16	43	22
Fenham	11,301	14	1·24	10	0.88	24	2·12	9	0·80	11	0·91	20	1·71	5	24	12
All Saints	18,130	85	4·69	26	1·43	111	6·12	47	2·59	7	0·39	54	2·98	11	94	15
St. Andrew's	12,783	27	2·11	18	1·41	45	3·52	23	1·80	4	0·31	27	2·11	6	38	14
Jesmond	11,317	11	0·97	2	0·18	13	1·15	9	0·79	1	0·09	10	0·88	3	6	10
Dene	12,478	17	1·36	9	0·72	26	2·08	10	0·80	4	0·32	14	1·12	5	30	11
Heaton	15,877	22	1·39	9	0·56	31	1·95	12	0·76	3	0·19	15	0·95	4	45	18
Byker	17,904	48	2·68	21	1·17	69	3·85	22	1·23	14	0·78	36	2·01	10	84	17
St. Lawrence	18,343	37	2·02	32	1·74	69	3·76	24	1·31	8	0·44	32	1·75	17	124	32
St. Anthonys	16,165	37	2·28	27	1·67	64	3·95	20	1·23	9	0·56	29	1·79	10	84	10
Walker	16,467	35	2·12	26	1·58	61	3·70	17	1·03	9	0·55	26	1·58	11	70	25
City	278,107	612	2·21	352	1·26	964	3·47	367	1·32	162	0·58	529	1·90	168	899	287

NOTE.—Deaths occurring in Public Institutions, have been allocated in every case to the Wards in which they resided.
The figures relating to deaths only include those persons who were residents of and died in Newcastle-upon-Tyne.

Housing Accommodation.—The numbers of rooms in the dwellings occupied by 353 persons who died from pulmonary tuberculosis were as follows :—

Rooms in dwelling.	1	2	3	4	More than 4	Common Lodging Houses.	Total.
Deaths.	41	84	92	75	56	5	353

As regards the type of house occupied, 192 were flats, 94 tenements, 62 self-contained, and 5 common lodging houses.

THE "COMBINED SCHEME.

The Work of the Tuberculosis Dispensary. —The number of new patients entered on the Dispensary register during the year was 899, and of these 297 were 'insured' persons, 484 dependents of 'insured' persons while 118 were 'uninsured'.

TABLE C.

PERSONS ON DISPENSARY REGISTER UNDER THE FOLLOWING HEADINGS.

Year.	Number on Dispensary Register.	Insured.	Dependents	Uninsured.	Notified by Medical Pracitioners.	Notified by T.M.O.	Contacts.
*1913	729	299	318	112	457	140	132
1914	1046	388	499	159	396	180	470
1915	899	297	484	118	286	146	467

* From March 17th.

Many of these were contacts and of them (146, equal to 16 per cent.) were first discovered to be suffering from consumption by the Tuberculosis Medical Officer, a considerable proportion being fairly advanced cases and active sources of infection, expectorating tubercle bacilli in their sputum.

The number of the attendances at the Dispensary was 6,401 and 72 patients were visited in their homes, making a total of 6,473 consultations with the Tuberculosis Medical Officer.

The cases on the Dispensary register were derived from many sources, the majority being notified cases and their contacts reported by the Dispensary nurses, who visit practically every person notified as suffering from tuberculosis of the lungs.

Many, however, were referred to the Tuberculosis Medical Officer, with a view to sanatorium or other treatment, by the Insurance Committee, the School Medical Officers, private practitioners, out-patient departments of the Royal Infirmary and Sick Children's Hospital, etc., while a considerable number were secured through the agency of the Charity Organization Society, and the Guild of Help.

The patients who attended the Dispensary were recommended by the following :—

TABLE D.

Recommended by	1914	1915
Medical Practitioners	227	200
Dispensary Nurses	438	397
School Medical Officers	101	57
Came of own accord	211	131
Lady Almoner, Royal Victoria Infirmary ...	24	31
Insurance Committee	15	4
Friends of Patients	11	21
Tuberculosis Medical Officer	10	16
Charity Organisation Society	5	6
Poor Children's Holiday Association ...	2	2
Superintendent of Midwives...	2	14
Soldiers' and Sailors' Families Association	...	7
Other Sources	...	13
Total	1046	899

Tuberculin injections were administered to 13 new patients.

The Work of the Nurses.—In all, 1,055 new patients were

visited and 5,429 subsequent visits were made, making a total of 6,484 visits for the year.

The main object of these visits is to see that the patient is carrying out, in every detail, the instructions of the doctor in attendance, more especially with regard to the prevention of the spread of infection to other members of the household.

The nurse can often give good advice on home nursing, the improvisation of a separate bed for the sufferer, the preparation of simple and inexpensive articles of diet, and kindred subjects.

Enquiry is also directed to the health of contacts, and any who are ailing are urged to see their own doctor, if they have one, or to come to the Dispensary for examination.

In this way a large number of unrecognised cases of tuberculosis has been discovered, especially amongst children.

The nurses report to the Tuberculosis Medical Officer every morning upon the previous day's work, special mention being made, in the case of new patients, of the number and relation of the inmates of the house occupied, the number of rooms in the house, the sleeping arrangements of the patient, and any obvious sanitary defects, *e.g.*, improper ventilation or bad drainage.

The Work of the Special Inspector.—This officer disinfects houses after deaths or changes of address of consumptives, arranges for the removal and disinfection of phthisical patients' clothing and bedding, and reports on any insanitary conditions existing in the homes of dispensary patients, such as overcrowding, insufficient ventilation, or defective sanitary arrangements.

The details of his work were as follows:—

Houses visited		925
Houses disinfected (total)		512
For patients going to Sanatoria ...	69	
,, ,, changing their address ...	21	
,, ,, changing their rooms ...	2	
,, ,, going to Hospital ...	145	
After death	275	

Rooms disinfected in above houses	779
Disinfection of Dispensary	26
Total number of visits	1,400
Houses found to have sanitary defects (including overcrowding) and referred to the Inspector of Nuisances	23

Bacteriological Examination of Sputum.—600 specimens of sputum were examined for presence of tubercle bacilli at the College of Medicine, 147 being positive, and 453 negative.

608 specimens were examined at the Dispensary, and of these 140 were positive, and 468 negative.

The following table shows the division into age periods of the persons whose sputa were found to contain tubercle bacilli:—

AGE PERIODS OF PERSONS WHOSE SPUTA, ON EXAMINATION, PROVED TO CONTAIN TUBERCLE BACILLI.

	5 years to 10 years.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65	65 and upwards.	TOTAL.
College of Medicine—Males ...	...	...	8	8	29	29	18	1	1	94
College of Medicine—Females ...	...	5	3	8	15	12	8	2	...	53
Tuberculosis Dispensary—Males ...	2	1	14	14	22	22	8	1	...	84
Tuberculosis Dispensary—Females	1	8	6	9	17	11	3	1	...	56
Total...	3	14	31	39	83	74	37	5	1	287

Institutional Treatment.—Under the 'Combined Scheme' 30 beds for adults are maintained at Barrasford Sanatorium, whilst 15 beds were available at the City Hospital, Walker Gate, for more advanced cases. 30 beds are maintained at Stannington Sanatorium for the treatment of tuberculous children. 20 of the 30 Corporation beds at Barrasford are reserved for insured persons.

The following tables show the number of patients admitted to *Barrasford Sanatorium*, *Stannington Sanatorium*, and the *City Hospital*, Walker Gate, together with the results of treatment where it had been completed :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM, AND THE RESULTS.

Year.	Number of Patients admitted to the Sanatorium.	Males.	Females.	Condition at the end of Year 1915.					Total Number of days in the Sanatorium.	Average number of days in the Sanitorium.
				Well, working or fit to work.	Improved or fit for light work.	Unimproved or relapsed.	Dead.	Lost sight of, or left the district.		
†1908	21	13	8	1	2	...	12	6	2,739	130
1909	43	29	14	8	4	2	19	10	4,572	106
1910	73	42	31	8	6	3	41	15	7,795	107
1911	67	48	19	10	7	5	38	7	5,651	86
1912	83	59	24	19	8	3	33	20	8,302	98
1913	86	61	25	31	14	4	28	9	9,513	110
1914	78	55	23	45	17	8	6	2	11,266	144
*1915	70	52	18	28	11	3	2	...	5,210	118
Total...	521	359	162	150	69	28	179	69	55,048	111
Received treatment in previous years § ...	16	9	7	1	4	1	8	2	...	...
Nett Cases	505	350	155	149	65	27	171	67	55,048	115

† From November 22nd.

* 26 beds were still occupied at the end of year, and the total days are of those who completed treatment.

§ 16 patients received treatment in previous years, and should be deducted from the total. The details are as follows :—

In 1911.—5	patients in this year had	received	treatment in	1910.
,, 1912.—1	do.	do.	do.	1909.
,, ,, —3	do.	do.	do.	1911.
,, 1913.—1	do.	do.	do.	1909.
,, ,, —1	do.	do.	do.	1910.
,, ,, —1	do.	do.	do.	1911.
,, ,, —3	do.	do.	do.	1912.
,, 1915.—1	do.	do.	do.	1910.
16				

Bacterial History of

Patients who received Treatment in Barrasford Sanatorium.

Year.	Persons Admitted to Barrasford Sanitorium.			Persons Deceased at end of Year 1915.			Cases who had Tubercle Bacilli in the Sputum and could not be traced at end of Year 1915.
	Total.	Number who had T.B. Bacilli found in the Sputum	Number who had *not* T.B. Bacilli found in the Sputum. *	Total.	T.B. Bacilli found in the Sputum,	T.B. Bacilli *not* found in the Sputum.	
1908	21	12	9	12	10	2	2
1909	43	28	15	19	17	2	2
1910	73	54	19	41	35	6	10
1911	62	39	23	34	27	7	4
1912	79	45	34	32	29	3	9
1913	80	56	24	25	20	5	5
1914	78	56	22	6	6	...	...
1915	69	54	15	2	1	1	...
Total...	505	344	161	171	145	26	32

* In 1909 in 1 of this number Tubercle Bacilli were found in Sputum some time after discharge.
,, 1910 ,, 2 do. do. do.
,, 1911 ,, 8 do. do. do.
,, 1912 ,, 7 do. do. do.
,, 1913 ,, 1 do. do. do.
,, 1914 ,, 2 do. do. do.
,, 1915 ,, 1 do. do. do.

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM DURING YEAR 1915.

	In Barrasford Sanatorium on 1st January, 1915.	Admitted during year.	Persons who completed treatment during year.			In Barrasford on 31st Dec., 1915.
			Number.	Total Number of days,	Average Length of Stay in days.	
Uninsured Males ...	4	8	8	1,356	169	4
Uninsured Females...	3	8	9	1,207	134	2
Insured Males ...	17	44	46	6,411	139	15
Insured Females ...	6	10	11	1,829	166	5
Total	30	70	74	10,803	146	26

Results of treatment of patients discharged from Barrasford Sanatorium during year 1915 :—

RESULTS.	Males.	Females.	Total.
(*a*) Fit to work	44	12	56
(*b*) Improved	6	7	13
(*c*) Without improvement	4	1	5
(*d*) Worse	...	...	...
Total	54	20	74

CHILDREN WHO RECEIVED TREATMENT IN STANNINGTON SANATORIUM DURING YEAR 1915.

	In Sanatorium on 1st Jan., 1915.	Admitted during the year.	Persons who completed treatment during the year.			In Sanatorium on 31st Dec., 1915.
			Number.	Total number of days.	Average length of stay in days.	
Males	16	33	33	4,992	151	16
Females	13	32	32	3,662	114	13
Total	29	65	65	8,654	133	29

Results of treatment of patients discharged from Stannington Sanatorium during year 1915 :—

	Males.	Females.	Total.
(*a*) Much Improved	17	22	39
(*b*) Improved	10	8	18
(*c*) Without Improvement ...	6	2	8
(*d*) Worse	...	...	...
Total	33	32	65

PATIENTS WHO RECEIVED TREATMENT IN PHTHISIS PAVILION, AT THE CITY HOSPITAL, WALKER GATE, DURING YEAR 1915.

	Patients in Hospital on 1st Jan., 1915.	Patients admitted.	Patients who have completed treatment.			In Hospital 31st Dec., 1915.
			Number.	Total number of days.	Average length of stay in days.	
Uninsured, Male ...	...	3	2	132	66	1
,, Female	2	10	9	983	109	3
Insured, Male ...	10	36	39	4692	120	7
,, Female ...	1	5	5	576	115	1
Total	13	54	55	6383	116	12

N.B.—One patient was readmitted and is counted as two admissions.

Result of treatment of patients who completed treatment in Phthisis Pavilions, at the City Hospital, Walker Gate :—

	Males.	Females.	Total.
(a) Fit to Work	6	1	7
(b) Improved	14	1	15
(c) Without Improvement ...	8	8	16
(d) Died in Hospital	13	4	17
Total	41	14	55

N.B.—17 patients died in the Institution, and 8 have died since being discharged.

After Care.—Every effort is made to keep in touch with patients after they leave the Sanatoria and Hospitals, in order to encourage them in their battle against the disease, and to see that they continue to observe the rules for the preservation of health and prevention of infection of others which they learned whilst undergoing institutional treatment.

A very pressing need is some means of providing suitable employment for phthisical patients, and probably an "After Care Committee" could best deal with this matter.

Close communication is maintained between the Tuberculosis Dispensary and the various charitable agencies, through which much material assistance is obtained for individual patients, for some of whom work has been found. Much more remains to be done in this direction, however, and a special body, such as suggested above, would probably be best able to cope with the necessities of the situation.

It is far too common to see cases return from Sanatorium or Hospital much improved in health and able to undertake a certain amount of work, and then relapse, owing to insufficient nourishment whilst looking for open-air employment.

Doubtless the establishment of farm colonies would overcome this difficulty to some extent, but the average town-dweller is unable to keep a wife and family on the wages paid to a farm servant.

It is to be hoped that one of the effects of this unhappy war will not be to postpone further the satisfactory solution of the problem.

TUBERCULOSIS SECTION, 1915.

Monthly Summary of Work Accomplished.

	1915.												Total for Year.		
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1915	1914	1913
Notifications	76	80	117	82	110	85	62	60	70	78	72	72	964	958	1246
Lungs	53	48	87	49	58	55	39	40	45	43	48	47	612	665	796
Other Forms	23	32	30	33	52	30	23	20	25	35	24	25	352	293	450
By Tuberculosis M. O. ...	13	10	19	13	15	19	12	9	9	9	8	10	146	180	140
Deaths	62	47	44	42	54	38	42	35	41	42	40	42	529	507	449
Lungs	42	33	33	28	37	28	28	27	24	28	27	32	367	351	297
Other Forms	20	14	11	14	17	10	14	8	17	14	13	10	162	156	152
Attendance at Dispensary	486	532	628	580	591	619	577	522	526	544	451	417	6473	6712	3690
Dispensary	474	517	611	569	578	617	575	522	526	544	451	417	6401	6475	3483
Residence	12	15	17	11	13	2	2	...	...	...	...	...	72	237	207
New Patients	112	88	104	72	76	96	70	63	53	59	60	46	899	1046	729
Tuberculin Cases	...	2	5	1	...	3	...	...	2	...	...	...	13	29	76
Barrasford Sanatorium.															
Admitted	2	6	6	5	10	9	2	4	8	10	4	4	70	78	86
Discharged	2	6	8	6	9	7	4	2	10	10	3	7	74	78	85
City Hospital, Walker Gate															
Admitted	4	3	5	2	2	5	2	6	3	7	9	6	54	40	38
Discharged	1	3	4	1	2	4	3	3	4	6	2	5	38	27	16
Died	2	1	...	...	1	1	2	...	1	2	3	4	17	14	8
Stannington Sanatorium.															
Admitted	6	4	11	5	4	5	5	1	7	8	4	5	65	78	17
Discharged	5	4	11	5	4	5	6	1	7	7	6	4	65	55	11
Bacteriological Exams.															
College of Medicine—total	47	53	71	58	56	60	42	38	49	40	31	55	600	714	910
Sputum—Positive ...	9	15	14	12	16	14	8	9	9	11	10	20	147	202	207
Negative ...	38	38	57	46	40	46	34	29	40	29	21	35	453	512	703
Dispensary	42	63	71	48	44	62	69	41	40	39	38	51	608	764	354
Sputum—Positive ...	11	15	10	8	12	16	13	11	13	7	6	18	140	182	85
Negative ...	31	48	61	40	32	46	56	30	27	32	32	33	468	582	269
Urine	...	10	13	12	28	20	35	23	24	25	42	40	272	...	...
Evening Consultations.															
Attendances	79	97	110	96	104	133	84	97	109	105	49	61	1124	1000	546
New Patients	18	21	11	6	13	14	13	7	7	11	3	4	128	130	59
Work of Nurses.															
New Patients	147	82	106	69	131	106	91	49	57	60	70	87	1055	1306	741
Subsequent Visits ...	531	480	442	446	453	486	489	374	378	520	357	473	5429	6444	1293
Total	678	562	548	515	584	592	580	423	435	580	427	560	6484	7750	2034
East District	367	280	280	250	286	290	290	290	275	290	145	280	3323	3729	266
West District	311	282	268	265	298	302	290	133	160	290	282	280	3161	3921	577
Special Inspector's Visits	213	147	174	176	120	124	86	96	56	50	64	94	1400	2385	1835
Houses Disinfected ...	44	48	60	42	38	44	35	42	34	36	47	42	512	549	514
Rooms Disinfected ...	72	68	95	67	63	78	52	55	47	52	62	68	779	1077	1089
House Sanitary Defects	3	2	3	2	2	2	...	2	2	2	2	1	23	48	71

Note.—The figures relating to deaths only include those persons who were residents of and died in Newcastle-upon-Tyne.

William H. Dickinson., M.B., D.P.H.,
Tuberculosis Medical Officer.

Tuberculosis Dispensary,
July, 1916.

DISINFECTION.

2,047 cases of notifiable and 269 of non-notifiable infectious disease have been inquired into by the infectious disease inspectors, and the houses or rooms connected therewith disinfected by spraying with formalin. The Lord Mayor's Information Bureau (9 Eldon Square) was disinfected 104 times. In connection with cases of tuberculosis, 512 houses, including 779 rooms, were similarly disinfected.

In every instance the bedding and other infected articles were removed to the Disinfecting Station at the City Hospital, Walker Gate, and after sterilisation by steam, returned to the owners.

Inquiries were also made in connection with 2 typhus, 7 smallpox, 50 cerebro-spinal fever, and 9 other contacts. These persons were kept under observation until the possible incubation period was over.

510 extra visits of supervision to the large number of cases left at home were entailed upon the Infectious Diseases Inspectors owing to the pressure upon the accommodation at the City Hospitals.

INFECTED ARTICLES PURIFIED IN THE DISINFECTING APPARATUS AT THE CITY HOSPITAL FOR INFECTIOUS DISEASES, WALKER GATE, AND THE ISOLATION HOSPITAL, TOWN MOOR.

ARTICLES FROM CITY.		ARTICLES—HOSPITAL PROPERTY.	
1915.	1914.	1915.	1914.
*46,922	32,850	4,135.	3,148.

*Articles of patients' clothing now included, which has not previously been done.

The above list includes only civilian work. In addition, the following articles from military billets and camps were disinfected ;—

Articles Disinfected for Military Authorities.

Description.		Treated at.		
		City Hospital.	Moor Hospital.	Total.
Complete Kits	For Infectious Cases.	163	...	163
Other Articles ...	For Infectious Cases.	590	...	590
Blankets	For Vermin.	15,105	17,883	32,988
Other Articles—Sheets, Tents, Cushions, Covering Apparel, etc.	For Vermin.	2,285	2,750	5,035
Total		18,143	*20,633	38,776

* 4,616 from beyond the City.

The staff have thus dealt with approximately 90,000 articles at the two disinfectors during the year.

Infected Articles Destroyed and Replaced by the Health Department.

	1915.	1914.
Half Straw Mattresses	16	28
Flock Beds	2	...

Orders for goods to the value of £1 10s. 2d. were also given in replacement of similar articles destroyed by order of the Medical Officer of Health.

Fluid disinfectant, in pint and half-pint tins, and disinfectant soap, in pound bars, were given out free on the order of the special inspectors, for home use in connection with infectious disease. Every precaution was taken to ensure that the material so dispensed was properly and economically used.

DISINFECTANTS DISTRIBUTED.

FROM	FOR INFECTIOUS DISEASES.		FOR PHTHISIS	
	FLUID (1 pint tins.)	SOAP (1 lb. bars.)	FLUID (1 pint tins)	SOAP (1 lb. bars.)
Health Department	*752	152	...	...
Tuberculosis Dispensary ...	...	...	†382	...
Corporation Yard, Benwell ...	192	151	4	6
Corporation Yard, Walker ...	49	21	...	...
TOTAL, 1915	993	324	195	6
The Total in 1914 was ...	1,788	930	280½	33

* Including 282 Half-pints. † Half-pints.

BACTERIOLOGICAL INVESTIGATIONS, 1915.

The following is a summary of the bacteriological investigations carried out on behalf of the Health Department of the Newcastle Corporation by Professor H. J. Hutchens and Dr. P. C. Laws, at the University of Durham College of Medicine, Newcastle.

REPORT.

1,918 specimens were submitted for examination. The nature of the investigations, and the results obtained were as follows :—

	DIPHTHERIA.			TUBERCULOUS PHTHISIS.			ENTERIC FEVER.		
	Total.	Positive.	Negative.	Total.	Positive.	Negative.	Total.	Positive.	Negative.
No. of Examinations ...	606	128	478	600	147	453	131	51	80

Milk Examinations :—

	Total	Found	Not Found
1. For tubercle bacilli	188	11	177

2. Bacterial content of organisms other than tubercle bacilli (the colon bacillus being taken as the indicator.)

Colon bacilli not found in 1 cc. or less ...	16
Colon bacilli found in 1 cc. but not in less	32
Colon bacilli found in 0·1 cc. but not in less	38
Colon bacilli found in 0·01 cc. but not in less	40
Colon bacilli found in 0·001 cc. but not in less	68
	194

Water Examinations :—

Class I. (Colon bacilli not found in 100 cc. or less)	44
Class II. (Colon bacilli found in 100 cc. but not in less)	63
Class III. (Colon bacilli found in 10 cc. but not in less)	58
Class IV. (Colon bacilli found in 1 cc. but not in less)	23
	188

Other Examinations :—

1. Persons suspected to be carriers of the typhoid bacillus	2
2. Milk for food-poisoning bacilli	4
3. Suspected to be suffering from cerebro-spinal meninigitis	3
4. Persons suspected to be carriers of the meningococcus	2
	11

H. J. Hutchens,

P. C. Laws,

Bacteriologists.

University of Durham College of Medicine,
23rd June, 1916.

REPORTS OF THE
VETERINARY OFFICER AND INSPECTOR
OF PROVISIONS, AND OF THE
INSPECTOR UNDER THE FOOD AND DRUGS
ACTS (INSPECTOR OF NUISANCES).

IV. FOOD.

BOVINE TUBERCULOSIS,
INSPECTION OF MEAT AND PROVISIONS,
INSPECTION OF FOOD AND DRUGS.

BOVINE TUBERCULOSIS, AND THE INSPECTION OF MEAT AND PROVISIONS AND FOOD AND DRUGS.

TUBERCULOUS MILK—1915.

Ten supplies were found to be tuberculous. One of the farms was in the City, and the others were variously situated in Northumberland (5), Cumberland, Westmorland, Ayrshire, and Dumfriesshire.

In 6 cases examination of the herds (3 of them by means of the tuberculin test) showed some of the cows to be affected, and these animals were isolated. Check samples from the milk of the remainder were reported not to contain tubercle bacilli.

At one farm no disease was discoverable among the stock, but four cows were said to have been removed after the sample was taken. A check sample was therefore obtained, and examination of this gave a negative result. Later in the year, however, another sample from this farm was taken, and was reported to contain tubercle bacilli. The authorities for the county in which the farm was situated were notified, but were quite unable to discover any evidence of any disease in the herd, and tubercle bacilli could not be found in a mixed sample of the milk. An attempt was made to secure a sample in Newcastle, but it was then found that the supply had been transferred to another town.

Examination of the herd in one instance shewed two cows in a suspicious condition. No tubercle bacilli could be recovered from the milk of these animals however, and a check sample from the milk of the remainder also gave a negative result. It was stated that two cows had been disposed of soon after the original sample was obtained.

One of the affected samples was taken from the supply of an association of farmers. About forty farms were involved. There was no means of ascertaining which particular herd was responsible, and, though the county authorities carried out exhaustive examinations at each of the farms, no evidence of disease could be found at any of them.

In the remaining case, no evidence of disease could be found in the cows at the farm. It was stated, however, that seventeen animals had been taken out of the herd after the collection of the sample. A check sample was also reported to contain tubercle bacilli, but a sample a fortnight later taken from the same dairy, and also one from another dairy in the City, were both reported as negative. So far as could be ascertained, the farmer then for some time ceased to send milk to the City, but some months afterwards a sample was obtained from a third dairy and was also reported negative.

INSPECTION OF MEAT AND PROVISIONS.

Report of the

Veterinary Officer, Inspector of Meat, etc.

To the Medical Officer of Health.

Sir,

I have the pleasure to present this, my Ninth Annual Report, to the Sanitary Authority for the City and County of Newcastle-upon-Tyne, concerning food inspection within the city during the year ending 31st December, 1915.

The amount of work, in the inspection of meat and other foodstuffs within the city, carried out annually, has, during recent years, shown a gradual but decided increase. For the benefit of all concerned, it it essential that not only proper development but the highest pitch of efficiency should be maintained in the administration of such an important public department. As the many important duties under the Contagious Diseases of Animals Acts, which are outside the scope of this Report, have likewise increased, it will scarcely be necessary to add that it would be of advantage to the City were the Veterinary Officer provided with clerical assistance to avoid the unnecessary waste of valuable time that should be devoted to professional duties rather than have to be spent from time to time in work of office routine. About a year ago an attempt was made to find office accommodation in the Town Hall such as is absolutely necessary for the proper and efficient carrying on of veterinary and meat and milk inspection administration:—

1.—Veterinary Officers' private office.
2.—Office for Inspectors and Clerk.
3.—Laboratory (room) fitted for the purposes of examining meat and milk specimens.

No such accommodation, however, could be obtained within the Town Hall. The only accommodation at the

disposal of the Veterinary Officer at the present time consists, as you so well described in your last Annual Report, of "one small, badly-lighted and ill-ventilated room on the mezzanine floor of the Town Hall." For one to have to attempt to carry out professional and administrative duties under such conditions is neither conducive to good health nor in keeping with the requirements of the official position one has the pleasure and honour to occupy.

THE DAIRIES, COWSHEDS, AND MILKSHOPS ORDERS, 1885-1899.

THE MILK SUPPLY.

There are 31 dairymen registered within the City who occupy 43 cowsheds on 33 premises and possess a total of 554 milch cows.

During the year, 263 visits have been made to the cowsheds and dairies, for the purpose of inspecting the buildings as to sanitation, structural defects, general cleanliness, etc. Visits have also been made for the purpose of examining the cows and special visits for the taking of samples of milk from those examined at a previous date and under observation. Of the many samples taken and examined, three were found tuberculous whilst one showed evidence indicative of *actinomycosis.* Besides the above, six cows were found to be affected with disease of the udder other than tuberculosis. In those cases where tuberculosis existed the animals were removed from the herd whilst those affected with other conditions than tuberculosis had their milk either temporarily or permanently suspended from the public supply.

In one case, included in the above, a sample of milk had been collected by a Health Department Inspector and submitted by the Medical Officer to the College Laboratory for the biological test. The milk being found tuberculous, the source of supply was reported to the Veterinary Officer who then visited the farm concerned and examined the cows. One animal was removed as a result of this examination.

Subsequently a check sample was obtained by the Health Department and submitted to the College for the biological test, which proved negative, thus confirming the removal of the source of contamination from the herd.

MEAT, PROVISIONS, FISH, FRUIT, Etc.

During the year 1915, besides large quantities of imported meat and other foodstuffs, some 221 animal carcasses have been condemned within the city and destroyed as being unfit for human consumption, as compared with 201¼ carcasses in 1914 and 202¾ carcasses in the year 1912. Of the 221 carcasses, 100 (93 carcasses and 28 quarters) were condemned on account of tuberculosis. There was therefore a larger total of carcasses condemned, and also more carcasses condemned on account of tuberculosis during last year than during any similiar period within the past five years. It it just five years since the local insurance of cows against tuberculosis, etc., was abolished. As was anticipated, the number of carcasses condemned within the City during a twelve month dropped just as suddenly as the disappearance of the slaughtering of that class of animal. But during the past four years the number of animals condemned on account of tuberculosis within the City has continued to increase. A possible explanation of the increase in the number of animal carcasses condemned for tuberculosis and for other abnormal conditions lies in the fact that the number of animals slaughtered within the City is greater now than at any other period. The total number of cattle insured by the members of the Newcastle, Gateshead and District Butchers' Association during the year was 19,593½ being an increase of 1,305½ over the previous year and an increase over the year 1913 of 3,881½.

The total amount paid by the Association to their members during the year, as compensation in respect of carcasses, etc., condemned and destroyed on account of disease, etc., was £1,274 6s. 8d., being an increase of £383 18s. 0d. paid as compensation over the amount paid during the previous year.

NUMBER OF VISITS AND INSPECTIONS OF PREMISES
DURING THE YEAR 1915.

Slaughter Houses.	Central Markets.	Wholesale Shops.	Quay Fish Market.	Wharves.	Cold Stores.	Sausage Factories.	Goods Stations.	Vessels.	Army Billets.
11,959	1,764	2,933	207	368	27	15	17	6	49

IMPORTED MEAT.

During the year 1915 some 323 vessels carrying meat and other foodstuffs from Denmark, Norway, Holland, Spain and other countries, arrived at the Quayside. 374 visits were made to the wharves and vessels alongside, 372 casks and other packages containing meat, etc., being opened and minute examination made in each case.

Regarding these visits, eleven were in response to official notices received from the Customs House in reference to imported food stuffs detained for inspection and certification.

During the year under report, eleven samples—liquid—were collected from various packages containing meat, and submitted to the Public Analyst for chemical analysis. All were found free from any harmful preservative.

Imported meat arriving within the City other than by vessel, is subjected to supervision at the wholesale shops within the City.

FOREIGN MEAT ARRIVING BY VESSEL AND LANDED AT THE NEWCASTLE-UPON-TYNE QUAYSIDE.

Beef.								Veal.		Mutton.	Pork.						Other Goods.			Samples.	Opened.
Sides.	Casks.							Carcasses.	Casks.		Casks.					Sides of Bacon.	Casks.				
	Livers.	Tongues.	Udder.	Cheek.	Hearts.	Lungs.	Meat.		Plucks.	Mutton.	Feet.	Maws.	Tongues.	Heads.	Pork.		Preserved Meat.	Smoked Sausage.	Casings.		
126	6	3	1	1	2	3	1	166	3	1	1,414	1,016	63	762	3	135,780	82	132	7	11	372

The following packages of food stuffs were seized and destroyed, in accordance with the Unsound Food Regulations:—

18,790 lbs. Currants.
1,680 cwts. of Onions.
32 crates of Lettuce.
2 casks of Cauliflowers.

Carcasses, etc., Destroyed as being Unfit for Human Consumption during the Year, 1915.

	Carcasses.				Lungs.		Hearts.		Kidneys.		Livers.		Heads, Ox.	Tongues, Ox.	Plucks.		Tails.	Tripe.	Black Puddings	Sausages.	Saveloys.	Cooked Meat.	Maws, Pig.	Feet, Pig.	Pork Pies.
	Beef.	Veal.	Mutton.	Pork.	Pig.	Sets Ox.	Ox.	Sheep.	Ox.	Sheep.	Ox.	Sheep.			Pig.	Sheep.									
Tuberculous ...	81+28qrs	2	...	10	...	30	17	...	11	...	8	...	4	...	...	...	...	...	...	...	...	...	...	...	...
Swine Erysipelas..	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malignant Catarrh	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pleurisy	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Fatty Degeneration	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Congestion ...	1	1	2	6	10	...	...	...	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...
Cirrhosis ...	...	...	...	...	...	3	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dropsy and Emaciation	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Traumatism ...	112 lbs.	...	28 lb	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Parasitic ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Died in Transit ...	...	3	32	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Putrefaction ...	4 + 8 qrs. +4510 lbs	10	32+ 49 lb	6+ 42 lb	...	...	11	5	2976 lbs.	10 lb	19	...	5	7	6	5	17	1213 lbs.	27 lb	331 lbs.	53 lb	30 lb	4 C'sks	1 Cask.	24
Total ...	87+36qrs +4622 lbs	16	70 + 77 lb	39 + 42 lb	10	34	28	5	11+ 2976 lbs.	10 lbs.	31	1	9	7	22	5	17	1213 lbs.	27 lbs.	331 lbs.	53 lbs.	30 lbs.	4 C'sks	1 Cask.	24

POULTRY, GAME, FISH, ETC., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION DURING THE YEAR 1915.

Cause of Unfitness.	Poultry and Game	Fish.		Fruit and Vegetables.	Provisions.
		Shell Fish.	Other than Shell Fish.		
Unsoundness and Decomposition	250 Ptarmigan. 897 Rabbits. 1 Hare. 240 Grouse. 22 Chickens. 47 Ducks. 18 Pigeons. 12 Geese.	Lbs. Periwinkles ... 56 Mussels ... 588 Oysters... ... 192 Prawn ... ... 568 Lobster ... 190 Crab 851	Lbs. Smolt ... ... 232 Plaice ... ... 98 Cod ... ... 164 Haddock ... ... 168 Mackerel 84	Lbs. Pears ... ... 4,228 Plums ... ... 2,240 Gooseberries ... 48 Damsons ... 2,576 Red Currants ... 132	Lbs. Ham ... ... 7 Bacon... ... 148½ 257,911 Eggs.
Unclean ...	...	...	Trout.		

SLAUGHTER HOUSES.

During the year 1915 there were one hundred and six slaughter-houses (including one horse slaughtering premises and one knacker's yard proper) licensed within the City. These comprise five groups, situate Dispensary Lane, Cattle Market, Benwell, Stepney and Byker Hill, besides several separate establishments in various parts of the city. In many of these premises overcrowding is an evil difficult to prevent on account of the increase in the number of animals slaughtered. With overcrowding, improper cleansing commonly occurs, and for the latter reason it has been necessary on several occasions to warn the occupiers.

MEAT INSPECTION.

Under the present insanitary and antiquated slaughter-house system the inspection of all the carcasses dressed for food is a physical impossibility, and the inspection of those that are in fact seen is accomplished under most unfavourable conditions. The importance, nay, the urgent necessity for the carrying out, of complete inspection is now recognised by most people. It is recognised not only from the public health point of view, but is believed to be a necessity for the protection of honest meat traders besides for the ultimate benefit to agriculture. The Sanitary Committee, realising the great importance of the subject and the growing necessity for the application of more thorough methods within their administrative area, have, at the present time under consideration the desirability of the erection of public abattoirs adjoining the cattle, etc., markets, designed to meet the present and future requirements of the City. The Sanitary Committee, like other progressive bodies will undoubtedly have much valuable work to take up at the conclusion of the Great War. It will then be necessary for the people in this country to be fully equipped to meet their responsibilities, and to be so prepared good health is absolutely necessary, not only individually but collectively. To maintain good health it will be necessary to have access to a wholesome and sound food supply, and that can only be guaranteed by means of efficient

inspection. To be ready with a definite scheme, on the declaration of peace, for the erection of modern abattoirs within the City, will be to have arranged for one of the most important municipal reforms yet attempted within the City. Such splendid reforms have—to the public benefit—within quite recent years become accomplished facts in other cities within the British Isles. That the Sanitary Authority of the City and County of Newcastle-upon-Tyne will, the moment the opportune time arrives, prove itself not only equally progressive in its outlook, but equally capable of dealing with every phase of the subject to the satisfaction of all, is unquestioned.

SHOPS AND CELLARS.

Premises in which sausages and other food stuffs are prepared have been regularly visited. In some few cases it has been necessary to require structural alterations to improve the sanitary arrangements. These have been promptly complied with by the proprietors. Speaking generally the conditions of such premises may be considered as satisfactory.

MILITARY DEPÔTS AND BILLETS.

Regular visits have been paid to the many billets and stores within the city. In many instances special visits and inspections of meat, etc., have been made by request of officers commanding the various depôts, and where necessary the materials condemned, removed and destroyed.

PROSECUTIONS.

During the year a farmer and his son were fined £10 each in respect of sending diseased meat into the city to be sold. In connection with the same case a butcher and his son were fined £5 and £2 respectively.

I have the honour to be, Sir,

Your obedient Servant,

THOMAS PARKER, F.R.C.V.S.,
Veterinary Officer,
Inspector of Meat, &c.

Town Hall,
Newcastle-on-Tyne,
July 3rd, 1916.

FOOD AND DRUGS ADULTERATION, Etc.

The total number of **samples** (of all kinds) obtained by the ***Inspector of Nuisances*** for analysis during the year was 1,249, against 1,152 in 1914, being an increase over any previous year. For details see pages 125-138. Of this total, only 776 were submitted for analysis to the Public Analyst, the remainder being milk samples, which, on being tested in the offices of the Health Department, appeared to be genuine. The number of *milk samples* taken was 886; 82 of these were certified to be below the minimal limits fixed by the "Sale of Milk Regulations, 1901," and 2 to be artificially coloured with annatto.

Of the total number of samples taken (1,249), 301 were collected "informally," chiefly through the agency of hired persons, viz. :—

Butter	67	Farola	1
Margarine	31	Tapioca	1
Lard	36	Golden Syrup	1
Vinegar	10	Cheese	1
Condensed Milk	10	Sugar	4
Mustard	7	Corned Beef	2
Pepper	6	Tinned Sardines	1
Jams	5	Bread	2
Marmalade	2	Flour	3
Ground Rice	11	Currant Cake	1
Semolina	7	Lemon Drink	2
Arrowroot	4	New Milk	3
Sago	4	Tartaric Acid	10
Cocoa	3	Sweet Spirits of Nitre	7
Coffee	1	White Precipitate Ointment	4
Coffee and Chicory Essence	1	Paregoric	5
Tea	2	Cream of Tartar	6
Coffee Essence	1	Camphorated Oil	3
Rice	2	Olive Oil	3
Ground Almonds	2	Glycerine	3
Ground Ginger	3	Tincture of Rhubarb	6
Baking Powder	8	Syrup of Rhubarb	3
Corn Flour	4	Gregory Powder	2

The percentage of *samples not genuine* to the total number taken is 8·0 (compared with 9·72 for the previous year), and the percentage of non-genuine milk samples to the total number of milk samples obtained is 9·37 (as against 10·2 in 1914). The total number of samples taken is at the rate 4·56 per 1,000 of the population (estimated) of the City for the year 1915.

Preservatives in Food.—Of the total number of samples taken for analysis (1,249), only 51 (or 4·08 per cent.) were certified to contain preservative, the articles in question being—margarine (36), butter (6), and cream (9), the latter containing boric acid, in amounts varying from 0·05 per cent. to 0·48 per cent. In eight instances the cream was not labelled in accordance with the Public Health (Milk and Cream) Regulations, 1912, and the consequent action taken is shewn on pages 140-141.

In the case of the margarine and butter, the preservative in each case consisted of boric acid, the quantity, in every instance but one, being below 0·5%. The remaining sample (which was taken informally at a military depôt) contained 0·8% of that preservative, and, this being in excess of the limit allowed, the attention of the military authorities was drawn to the matter.

Margarine Act, 1887.—36 samples of margarine (included in the foregoing total) have been purchased and analysed. These were found to be genuine, except that all contained boric acid (as above). In five instances samples were delivered to the purchaser in paper not properly marked "Margarine." See page 139.

Margarine Warehouses.—38 visits have been made to the margarine warehouses. No contravention of the law as to the marking of packages containing margarine was found.

FOOD AND DRUGS ADULTERATION ACTS.

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
New Milk ...	886	803 genuine.		
		1 deficient in milk-fat 1·6%	4	From one vendor, who was cautioned.
		1 deficient in milk-fat 8·3%	23	
		1 deficient in milk-fat 45%	5	Vendors summoned. Case dismissed on proof of warranty from the farmer. On the latter being summoned the case was likewise dismissed.
		1 deficient in milk-fat 6·6%	7	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6%	14	Subsequent sample genuine. Vendor cautioned.
		1 deficient in non-fatty solids 10·3%	53	From one vendor. Summoned only in respect of No. 53; case dismissed on proof of warranty from vendors of No. 54. On the advice of the Deputy Town Clerk, no further action was taken with regard to the warranty, this being covered by proceedings against the original vendor of the milk. (See following case.)
		1 deficient in non-fatty solids 4·0%	85	
		1 deficient in non-fatty solids 9·0%	54	Vendors summoned. Case dismissed on proof of warranty from the farmer. On the latter being summoned, the case was likewise dismissed.
		1 deficient in non-fatty solids 3·6%	88	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£0 0 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£0 0 0
New Milk ... *(Contd.)*		1 deficient in milk-fat 6·6% and in non-fatty solids 4·4%	104	From one vendor, who was cautioned.
		1 deficient in non-fatty solids 4·3%	120	
		1 deficient in milk-fat 8·3%	117	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 10% and in non-fatty solids 18·6%. The milk was also artificially coloured with annatto.	175	Vendor summoned. Fined 10/- and costs.
		1 artificially coloured with annatto (the amount of which could not be accurately determined, but was much less than the amount in sample No. 175).	201	No proceedings taken.
		1 deficient in non-fatty solids 4·4%.	232	This sample was taken (informally) at the kitchen of the Contractor supplying a military depôt. The attention of the military authorities was drawn to the matter.
		1 deficient in non-fatty solids 2 6%	243	From one vendor, who was cautioned.
		1 deficient in non-fatty solids 1·9%	254	
		1 deficient in milk-fat 6·6%	287	Subsequent sample genuine; vendor cautioned (also in respect of a milk-can which was not inscribed with the name and address of the vendor). See following Table.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£0 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£0 10 0
New Milk ... *(Contd.)*		1 deficient in milk-fat 18·3% and in non-fatty solids 10·0%.	291	From one vendor, who was summoned. Fined 20/- *re* No. 291, and 10/- *re* 306.
		1 deficient in milk-fat 3·3% and in non-fatty solids 4·1%	306	
		1 deficient in milk-fat 3·3%	299	Subsequent sample genuine; vendor cautioned.
		1 deficient in non-fatty solids 4·3%	326	Subsequent sample genuine; vendor cautioned.
		1 deficient in milk-fat 16·6%	381	Vendor summoned. Fined 20/-.
		1 deficient in milk-fat 6·6%	404	From one vendor, who was summoned, and fined 10/- in each case. *Appeal to Cow.*—In connection with these proceedings, defendant's farm was visited, and, after witnessing the milking of the whole herd of 41 cows, a sample was taken from the bulk; this was certified to be genuine.
		1 deficient in milk-fat 6·6%	420	
		1 deficient in non-fatty solids 4·5%	423	Subsequent sample genuine. Vendor cautioned.
		1 deficient in non-fatty solids 2·4%	430	These were taken, in course of delivery, from the farmer supplying the retailer of sample No. 381. Summoned only in respect of No. 497. Fined 40/-.
		1 deficient in non-fatty solids 2·0%	431	
		1 deficient in milk-fat 20%	497	
		1 deficient in non-fatty solids 1·5%	498	
		1 deficient in non-fatty solids 13·5%	455	Vendor summoned. Fined 10/-.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£6 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£6 10 0
New Milk ... *(Contd.)*		1 deficient in non-fatty solids 14·6%.	456	Vendor summoned. Fined 10/-.
		1 deficient in milk fat 6·6%	470	From one vendor, who was cautioned.
		1 deficient in milk-fat 3·3%	506	
		1 deficient in milk-fat 23·3%	475	Vendor summoned. Fined £3.
		1 deficient in milk-fat 23·3%	484	Vendor summoned. Fined 40/-.
		1 deficient in milk-fat 53·3%	490	Vendor summoned. Case dismissed (the Court accepting the defence put forward that the milk in question was part of three pints of milk put aside for private consumption from the previous day's supply, and that it was sold by defendant's wife under the mistaken idea that she was compelled to sell to the Inspector any milk she had in the house).
		1 deficient in non-fatty solids 8·4%	517	Vendor summoned. Fined 40/-.
		1 deficient in milk fat 6·6%	573	From one vendor, who was cautioned.
		1 deficient in milk-fat 1·6%	592	
		1 deficient in milk-fat 16·6%	578	Vendor summoned. Fined 20/-.
		1 deficient in milk-fat 11·6%	585	Vendors summoned. Fined 20/- and 40/- respectively.
		1 deficient in milk-fat 30·0%	597	
		1 deficient in milk-fat 3·3%	590	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£18 0 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£18 0 0
New Milk ... *(Contd.)*		1 deficient in milk-fat 6·6%	599	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 10·0%	619	This was an informal sample taken from the supplies at the City Hospital, Walker Gate, and was not a satisfactory sample, in as much as the milk had been on the premises for several hours, during which time it had been continually taken from. Two formal samples were however subsequently taken in course of delivery at the Hospital; these proved to be genuine, but of very poor quality, and a representation on the subject was made to the purveyor of the milk.
		1 deficient in milk-fat 10·0%	661	From one vendor, who was summoned. Cases dismissed on payment of costs. (See also Nos. 703 and 704).
		1 deficient in milk-fat 11·6%	677	
		1 deficient in milk-fat 10·0%	664	Vendor summoned. Fined 10/-.
		1 deficient in milk-fat 13·3%	668	Vendor summoned. Case dismissed on payment of costs.
		1 deficient in milk-fat 3·3%	674	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 3·3%	676	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£18 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£18 10 0
New Milk ... (*Contd.*)		1 deficient in non-fatty solids 1·4%	694	Vendor cautioned. (This was one of 11 samples taken in course of delivery at a large Institution, the remaining 10 being genuine).
		1 deficient in milk fat 6·6%	703	*Appeal to Cow.*—These were 2 of 4 samples taken at defendant's farm in connection with proceedings then pending against him in respect of deficient samples Nos. 661 and 677. The vessel into which the milk was put for the purpose of mixing not being large enough to contain the total yield, it had to be filled twice, and on each occasion a sample was taken when full, and again when about two-thirds of the milk had been taken out (the latter being at the request of the farmer). Samples 703 and 704 were from the first half of the herd, those from the remainder of the cows being genuine. Had the total yield of milk been put into one vessel and a sample taken from the bulk, it would have been 0·15% above the minimal limit of milk-fat.
		1 deficient in milk-fat 6·6%	704	
		1 deficient in milk-fat 3·3%	707	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£18 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£18 10 0
New Milk ... (*Contd.*)		1 deficient in milk-fat 10·0%	729	Vendor summoned. Case dismissed on payment of costs. (Whilst the Magistrates did not think defendant had tampered with the milk, they considered there had been carelessness in manipulation, together with irregularity as regards the hours of milking.) (See also No. 761.)
		1 deficient in non-fatty solids 1·4%	761	*Appeal to Cow.*—(This sample was taken at defendant's farm in connection with proceedings which were then pending respecting No. 729.)
		1 deficient in milk-fat 1·6%	764	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 13·3%	848	Vendor summoned. Fined 20/-. *Appeal to Cow.*—In connection with these proceedings, 2 samples were taken at defendant's dairy, and were found to be genuine.
		1 deficient in milk-fat 10·0%	854	Vendor summoned. Fined 20/-.
		1 deficient in non-fatty solids 5·6%	856	Vendor summoned. Fined 40/-.
		1 deficient in milk-fat 6·6%	861	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 10·0%	862	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£22 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£22 10 0
New Milk ... (*Contd.*)				
		1 deficient in milk-fat 3·3%	884	From one vendor, who was summoned. Cases dismissed (the latter on payment of costs). (Whilst the Magistrates did not think defendant had tampered with the milk, they considered there had been carelessness in manipulation, together with irregularity as regards the hours of milking) *Appeal to Cow.*—Two samples taken at defendant's farm, in connection with these proceedings, were found to be genuine.
		1 deficient in milk-fat 13·3%	892	
		1 deficient in milk-fat 10·0% and in non-fatty solids 2·2%	923	From one vendor, who was cautioned. (See also No. 944).
		1 deficient in non-fatty solids 1·6%	937	
		1 deficient in non-fatty solids 2·4%	924	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6%	930	From one vendor, who was cautioned.
		1 deficient in milk-fat 1·6%	947	
		1 deficient in non-fatty solids 3·2%	931	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	886	Amount of Penalties carried forward ...	...	£22 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£22 10 0
New Milk ... (*Contd.*)		1 deficient in milk-fat 13·3%	944	*Appeal to cow.*—This was one of 3 samples taken at defendant's farm, in connection with proceedings then pending against him in respect of Nos. 923 and 937. There being no vessel available of sufficient capacity to contain the total yield, the taking of 3 separate samples was necessitated, the remaining 2 being genuine.
		1 deficient in milk-fat 11·6%	974	Vendors summoned. Case dismissed on proof of warranty. (The warrantor having died whilst these proceedings were pending, no further action was taken.)
		1 deficient in milk-fat 3·3%	976	From one vendor, who was cautioned.
		1 deficient in milk-fat 3·3%	1005	
		1 deficient in non-fatty solids 3·8%	1025	From one vendor, who was cautioned.
		1 deficient in milk-fat 3·3% and in non-fatty solids 0·4%	1046	
		1 deficient in milk-fat 26·6%	1138	Vendor summoned. Fined 20/-.
		1 deficient in milk-fat 6·6% and in non-fatty solids 3·3%	1145	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6% and in non-fatty solids 11·3%	1163	Vendor summoned. Fined 40/-.
Carried forward	886	Amount of Penalties carried forward ...	...	£25 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	886	Amount of Penalties brought forward ...	...	£25 10 0
New Milk ... (*Contd.*)		1 deficient in non-fatty solids 2·0%	1232	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 3·3% and in non-fatty solids 13·4%	1239	Vendor summoned. Fined £3.
Margarine ...	36	35 genuine (except that they contained boric acid below 0·5%).		
		1 contained boric acid 0·8%	157	This sample was taken (informally) at the kitchen of the Contractor supplying a military depôt. The attention of the military authorities was drawn to the matter.
Sago ...	4	2 genuine.		
		1 consisted entirely of tapioca. (Informal sample).	345	No further action taken.
		1 consisted entirely of tapioca. (Informal sample).	346	No further action taken.
"Lemon Drink"	2	1 contained lead compounds equivalent to 0·7 milligrams of metallic lead per litre. (Informal sample).	678	These samples were purchased from persons selling in the public market from a glass bowl fitted with a short siphon-pipe of lead. The attention of the vendors was drawn to the result of the analyses, and they were cautioned against the use of lead fittings in connection with the sale of this beverage.
		1 contained lead and tin compounds equivalent to 1·2 milligrams of lead and 16 milligrams of tin per litre. (Informal sample).	679	
Gregory Powder ...	3	2 genuine.		
		1 contained carbonate instead of calcined magnesia.	811	Informal sample. Formal sample genuine. No further action taken
Carried forward ...	931	Amount of Penalties carried forward ...	...	£28 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	931	Amount of Penalties brought forward ...	...	£28 10 0
Sweet Spirits of Nitre ...	8	6 genuine.		
		1 deficient in ethyl nitrite 50%	809	Informal sample. Formal sample obtained. (See No. 870.)
		1 deficient in ethyl nitrite 53%	870	Vendor cautioned.
Cream ...	10	1 genuine, and free from preservative.		
		1 contained boric acid 0·42% (Not "declared" in accordance with the Regulations).	872	Vendor cautioned.
		1 contained boric acid 0·48% (Not properly "declared.")	873	Vendor cautioned.
		1 contained boric acid 0·35% (Not properly "declared.")	874	Vendor cautioned.
		1 contained boric acid 0·47% (Not properly "declared.")	875	Vendor cautioned.
		1 contained boric acid 0·05% (Not properly "declared.")	876	Vendor cautioned.
		1 contained boric acid 0·41% (Not properly "declared.)"	877	Vendor cautioned.
		1 contained boric acid 0·41% (Not properly "declared.")	878	Vendor cautioned.
Carried forward ...	949	Amount of Penalties carried forward ...	...	£28 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	949	Amount of Penalties brought forward ...	...	£28 10 0
Cream ... (*Contd.*)		1 contained boric acid 0·48% (which was "declared" in accordance with the Regulations.)	879	
		1 contained boric acid 0·48% (Not properly "declared.")	880	Vendor cautioned.
Whisky ...	4	3 genuine.		
		1 contained 2·4% excess of water.	1190	Vendor cautioned.
Rum ...	3	All genuine.		
Gin ...	3			
Brandy ...	2			
Beer ...	6			
Butter ...	90			
Coffee, and Coffee Essence ...	3			
Jams ...	10			
Blackcurrant Jelly ...	1			
Marmalade ...	2			
Golden Sprup	1			
Skimmed Milk	1			
Carried forward ...	1075	Amount of Penalties carried forward ...	...	£28 10 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	1075	Amount of Penalties brought forward ...	...	£28 10 0
Condensed Milk ...	10	All genuine.		
Lard ...	36			
Vinegar ...	10			
Ground Ginger	3			
Sugar ...	4			
Cocoa ...	3			
Mustard ...	7			
Pepper ...	6			
Bread ...	2			
Flour ...	3			
Ground Rice ...	11			
Semolina ...	7			
Corn Flour ...	4			
Baking Powder	8			
Ground Almonds ...	2			
Tapioca ...	1			
Farola ...	1			
Rice ...	2			
Carried forward ...	1195	Amount of Penalties carried forward ...	...	£28 10 0

Samples taken for Analysis during the Year 1915.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	1195	Amount of Penalties brought forward ...	...	£28 10 0
Tea ...	2	All genuine.		
Arrowroot ...	4			
Cheese ...	1			
Currant Cake	1			
Tinned Beef (or "Corned Beef") ...	2			
Sardines ...	1			
Tartaric Acid	10			
Tincture of Rhubarb ...	6			
Syrup of Rhubarb ...	3			
Camphorated Oil ...	3			
Olive Oil ...	3			
Glycerine ...	3			
Cream of Tartar ...	6			
Paregoric ...	5			
White Precipitate Ointment ...	4			
TOTAL ...	1249	Total Amount of Penalties	...	£28 10 0

Action taken with respect to Offences other than Adulteration.

Offence.	No. of Cases.	Proceedings taken, etc.
Margarine Act, 1887, Sec. 6.		
Margarine delivered to purchaser in paper not properly marked "Margarine." (Samples Nos. 643, 646, 648, 655 and 1124).	5	Samples Nos. 646 and 655 were supplied in plain paper, and the vendors were summoned and fined 5/- and 10/- respectively. In the case of Nos. 643, 648 and 1,124, the word "Margarine" was written in pencil upon the wrapper, and the vendors were cautioned.
Sale of Food and Drugs Act, 1899, Sec. 9.		
Names and addresses of vendors not properly inscribed upon their milk-cans or vehicles.	3	In one case a summons was issued, the case being dismissed on payment of costs, and, in the remaining two, the offenders were cautioned.
Total ...	8	Amount of Penalties, 15/-.

Summary of Legal Proceedings taken during the Year 1915.

Total samples reported as not genuine ... 100.

	No. of Non-genuine samples represented.	No. of Persons summoned.
Convictions and penalties obtained	22	19
Cases dismissed	11	10

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

No. of samples respecting which the vendors were cautioned (by order of Sanitary Committee)	51
No. of deficient samples in respect of which the vendors were neither summoned nor cautioned—some of these being informal samples, in others deficiency slight, "appeal to cow" samples, etc., etc., (see Tables)	14
No. of non-genuine samples taken at military depôts (notified to the military authorities)	2

Total amount of penalties ... ... £28 10s. 0d.

Offences other than Adulteration.

No. of offences	8
No. of prosecutions	3
No. of convictions and penalties obtained	2
No. of cases dismissed	1
No. of offenders cautioned	5

Total amount of penalties ... ... £0 15s. 0d.

The Public Health (Milk and Cream) Regulations, 1912.

LOCAL GOVERNMENT TABLE.

1.—Milk and Cream not sold as Preserved Cream.

	(*a*) Number of samples examined for the presence of a preservative.	(*b*) Number in which a preservative was reported to be present.
Milk ...	424	None.
Cream ...	5	4. In 3 cases (samples Nos. 874, 876 and 880) there was no "declaration whatever; in 1 (sample 875) the only intimation was a notice posted in the shop, and this was hidden by a box placed in front of it. In each instance the vendor was cautioned by order of the Sanitary Committee.

2.—Cream sold as Preserved Cream.

(*a*) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(i.) Correct statements made	5
(ii.) Statement incorrect	—

(*b*) Determination of milk-fat in cream sold as preserved cream.

(i.)	Above 35 per cent.	3
(ii.)	Below 35 per cent.	—
(iii.)	35 per cent. ... ... —	2

(*c*) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the provision in Article V. (2) of the Regulations have not been observed 4

(*d*) Particulars of each case in which the Regulations have not been complied with, and action taken.

In 1 case (sample No. 872) the only "declaration" was a notice posted in the shop, in 1 (No. 873) the only intimation was a label on the vessel in which the cream was stored, and this was not in compliance, as to size, with the Regulations; in 2 instances (samples 877 and 878) the purchaser's jug was not labelled and the label on the vessel in which the cream was stored was not in compliance as to size. In the latter case the public notice in the shop was so hung as to be hidden when the door was opened.

In each instance the vendor was cautioned by order of the Sanitary Committee.

3.—Thickening substances.—Any evidence of their addition to cream or to preserved cream. Action taken where found ... None

4.—Other observations, if any—

All of the samples referred to in this return were also taken under the Sale of Food and Drugs Acts, and are therefore included in the separate Reports under those Acts.

Percentage of Preservative in samples of Cream.

The percentage of boric acid found in the 10 samples of Cream under report was as under :—

No. of Sample.	Cream not sold as Preserved Cream.	Cream sold as Preserved Cream.	REMARKS.
871	None.		The percentage indicated on the Statutory label was "Not exceeding 0·5 per cent" (except in 2 cases where the amount was not specified.)
872		0·42	
873		0·48	
874	0·35		
875	0·47		
876	0·05		
877		0·41	
878		0·41	
879		0·48	
880	0·48		

BACTERIAL IMPURITY OF MILK AND WATER.

Milk.—188 samples were obtained and examined by the Bacteriologist for presence of tubercle bacilli, which were found in 11, or slightly under 6 per cent.

Action taken is described on pages 113 and 114.

194 samples were obtained and submitted for examination for presence of evidence of excremental pollution, which was found to an undesirable degree in 68, or 35 per cent. The vendors and producers were communicated with and warned, further samples being taken in each case.

Water.—188 samples were collected from all parts of the City, and examined for the presence of *bacillus coli.*

The results are described fully on page 109.

CONDITION OF PREMISES ON WHICH FOOD IS PREPARED.

Bakehouses.—There are 270 in the City, of which 19 are factories, 68 workshops, and 183 domestic bakehouses.

Factory bakehouses are under the jurisdiction of H.M. Inspector of Factories.

The workshop bakehouses have been inspected, and the limewashing twice a year according to law has been enforced.

The domestic bakehouses have also been kept under supervision, but, as reported last year, the conditions necessarily obtaining in this class of bakehouse leave much to be desired, owing to the fact of the baking being carried out in the dwelling.

The Newcastle-upon-Tyne Corporation Act, 1911, prohibits the preparation or exposure for sale of articles of food in any room used as a sleeping apartment, and in the inspection of these places, special attention is paid to this important item.

Restaurant Kitchens.—The number of kitchens of restaurants, cafés, and dining rooms in the City is 83. These continue to be regularly inspected as to their general sanitary

condition and the enforcement of the periodical cleansing and limewashing of the premises.

Fried Fish Shops.—The number of these shops on the register at the end of the year was 120. Since this business was scheduled as an "offensive trade," the Inspector has been better enabled to deal with it, and the improvement referred to in the previous report has been maintained throughout the year.

Ice Creameries.—The number of these shews a considerable decrease during the year (viz., from 233 to 170), due chiefly to dealers having relinquished the business owing to the high price of materials, etc., in consequence of the war conditions. These places have been regularly inspected, and whilst those of the lower class require constant attention, speaking generally they are found to be well kept and clean.

General Shops from which Milk is Sold.—There were 764 such shops on the register at the end of 1915 (an increase of 50 over the previous year). Special attention has again been paid to the covering of milk vessels and the adoption of other necessary measures for safeguarding the milk against possible contamination.

It must be said, however, that, in very many instances, particularly in the case of the smaller "general" shops, the accommodation does not permit of proper precautions being taken in this direction, and, until the sale of this most important article of food can be confined exclusively to premises dealing only with dairy produce, the conditions under which the milk is stored for sale cannot be expected to be just what it should be.

In three instances during the year, the sale of milk was stopped from premises which were dirty or otherwise unsuitable for the purpose.

(Signed) Wm. Hudspeth,

Inspector under the
Food and Drugs Acts.

REPORT OF THE
INSPECTOR OF NUISANCES.

V. THE HOME AND THE WORKSHOP.

NUISANCES, HOUSING, FACTORIES AND WORKSHOPS, &c.

NUISANCES, HOUSING, FACTORIES AND WORKSHOPS, ETC.

The following is the

Report of the Inspector of Nuisances.

To the Medical Officer of Health.

Sir,

I beg to present to you my eighth report of the work done in my section of the Health Department, viz., that for the year ended 31st December, 1915, which, together with the section on Food and Drugs Adulteration, etc., is as follows :—

NUISANCE ABATEMENT.

As stated in previous reports, it is difficult to fully indicate, by means of figures, the amount and nature of the work carried on by the inspecting staff and its several branches, including the investigation of complaints, supervision of works in progress, inspection of tenemented property, common lodging houses, factories, workshops and workplaces, offensive trades, milkshops, and ice-creameries, etc., and inspections under the Housing, Town Planning, etc., Act, together with the systematic sanitary inspection of the City generally.

The result cannot be counted in figures, but the cumulative improvement effected must be left to shew itself in the increased health of the community, the aim of all sanitary effort.

Some idea as to the extent of this work may, however, be gathered from the following numbers of notices and other documents issued during the past year, viz. :—

Total number of notices served—Informal	8,096	
Statutory	220	—8,316
Number of written letters sent out ...	...	2,383
Number of circular letters sent out ...	...	1,600
Total ...	...	12,299

Magisterial Proceedings.—It is again satisfactory to be able to state that the bulk of the notices served have met with fairly ready compliance on the part of owners or occupiers of property, proceedings having been rendered necessary in only 23 instances (see pages 155-156). Where requirements were not at once carried out, the persons responsible have been communicated with by letter or personal interview, which procedure has greatly conduced to the above result.

Military.—The officers of the Health Department have again been working in close co-operation with the military authorities, in addition to their normal duties. Four assistant inspectors are on active service with H.M. Forces (being temporarily replaced by other men), whilst the other inspector mentioned in the previous report as having been taken from his ordinary duties to work in conjunction with the military authorities in the inspection of billeting stations, has continued during the year in that capacity. The District Inspectors have also rendered assistance in the systematic inspection of those places. The 2,301 inspections referred to on page 154, included the measuring up of billets, as to their cubic capacity and the apportionment of sleeping accommodation for the troops, the provision and arrangement of the necessary closet accommodation, drainage, ventilation, and general suitability of the various premises.

The difficulty of dealing with the abnormal quantities of horse manure, which was again acute at the beginning of the year, was considerably minimised towards the latter part of the year, owing to a reduction in the number of horses stabled within the City.

It must be said that the military have paid great attention to this matter, and have exercised considerable care in having the manure removed as expeditiously as possible under exceptional circumstances.

In January last, a letter appreciative of the co-operation of the Health Department officials with those of the military authorities was sent to the Lord Mayor by the Officer Commanding the Tyne Garrison.

SUMMARY OF INSPECTIONS OF BILLETS, YEAR 1915.

Number of Special Inspector's Visits	1,721
,, District ,, ,, ...	554
Billets measured for Overcrowding	134
* ,, previously measured for Overcrowding	70
,, found Overcrowded...	51
Rooms ,, ,, ...	366
Billets condemned and evacuated...	4
Rooms ,, (including kitchens, store rooms and lavatories found in use as sleeping places)	64
Defective Ventilation	54
Neglect of ,, and cleanliness	51
Want of Dining Tables	11
Want of and insufficient means of ablution	17
Insufficient or Defective W.C. Accommodation...	52
Obstructed and Defective Drains	47
Accummulation of Refuse	75
Camp Latrines too near dwelling houses	3
,, ,, interiors exposed to public view	5
Billet measured for Munitions Workers	1
Rooms in above	30

* In consequence of increased area 30 sq. ft.

USE OF PUBLIC SANITARY CONVENIENCES BY SOLDIERS.

In January arrangements were made for troops who were fed in the various restaurants round the centre of the City to have free use of the public sanitary conveniences.

CONVERSIONS OF DRY CLOSETS.

347 privies have been removed and replaced by water closets, against 492 in the previous year. Of this total (347) 275 were pail closets, 11 midden privies (chiefly in Benwell), and 61 "cell" privies (all in the districts of Benwell and Walker). In all but 22 instances this work was accomplished without having to resort to legal proceedings. In addition to the numbers previously mentioned, 230 dry ashpits have been removed, and replaced by portable galvanized iron dustbins.

The practice of supplying the first dustbins free of charge as an inducement towards the abolition of ashpits and privies has been continued, 689 such dustbins having been given during the year.

The following table, prepared by the *Medical Officer of Health*, shows the incidence of Enteric Fever to relation to the proportion of dry and water closets in the City, over a number of years :—

Enteric Fever in relation to the Elimination of the Conservancy System of Disposal of Excreta during the last 25 Years

Year.	City Engineer's Census of		Enteric Fever.	
	Number of Dry Closets in the City.	Number of Water Closets in the City.	No. of Cases.	Attack Rate per 1000 population.
1891	8,244	21,966	134	0·72
1892	8,640	24,749	97	0·51
1893	8,566	25,822	141	0·73
1894	8,515	26,997	164	0·84
1895	8,661	27,848	213	1·07
1896	8,867	28,977	176	0·87
1897	8,982	29,931	138	0·68
1898	9,317	31,158	307	1·48
1899	7,689	33,030	133	0·63
1900	7,966	33,708	79	0·37
1901	7,956	34,408	76	0·35
1902	7,863	35,323	57	0·26
1903	7,613	36,661	75	0·35
1904	7,313	37,985	30	0·14
1905	9,741*	42,175	50	0·20
1906	9,501	43,348	70	0·27
1907	9,237	43,460	66	0·25
1908	9,109	44,803	111	0·42
1909	8,781	45,468	74	0·28
1910	8,428	46,458	63	0·24
1911	7,959	47,681	87	0·33
1912	7,166	48,788	91	0·34
1913	6,332	49,397	124	0·46
1914	5,999	49,957	102	0·38
1915	5,528	51,466	100	0·36

* The large increase in the number of dry closets in 1905 is due to the incorporation of Walker and Benwell in November, 1904, these districts having a privy-box system.

The proportion of Dry Closets to Water Closets has thus fallen from 1 to 2·66 in 1891 to 1 to 9·3 in 1915

ATMOSPHERIC POLLUTION.

Smoke Inspections.—The following are particulars as to Smoke observations made :—

No. of chimneys watched.	No. of observations made.	No. of chimneys from which black smoke issued in such quantity as to be a nuisance for periods of over 5 minutes in the aggregate during one hour.	No. of times when smoke issued so as to be a nuisance.	No. of notices served for the abatement of smoke nuisances.		No. of Prosecutions.
				Informal.	Statutory	
30	91	7	7	7	...	...

Atmospheric Pollution Records.—An observation station, under the immediate control of the City Analyst, was established on an open site between City Road and Wall Knoll, in connection with similar stations in other towns, the monthly results from all of which are compared and published by the (National) Committee for the Investigation of Atmospheric Pollution.

The monthly readings from the Newcastle station are appended :—

ATMOSPHERIC POLLUTION.—NEWCASTLE RECORDS, 1915.

Month.	Rainfall. (Millimeters.)	Metric Tons of Deposit per Square Kilometer per Month.								
		Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as SO_4	Chlorine Cl.	Ammonia NH_3
January	50	0·12	3·65	5·36	2·97	3·77	15·87	2·85	0·32	0·13
February ...	65	0·09	3·25	5·72	2·47	5·06	16·59	2·86	0·64	0·18
March	52	0·10	3·38	5·50	1·66	3·94	14·59	2·50	0·48	0·15
April	13	0·27	4·35	11·76	1·19	3·27	20·85	2·48	0·25	0·07
May	48	0·22	3·82	8·59	1·63	4·61	18·87	2·92	0·61	0·20
June	14	0·09	3·95	12·50	1·95	4·93	23·40	2·30	0·54	0·17
July	70	0·21	4·41	8·40	1·69	3·94	18·65	2·23	0·30	0·12
*August										
*September ...										
October	41	0 37	8·65	16·85	2·23	6·52	34·62	3·35	0·29	0·17
November ...	41	0·20	3·93	6·59	1·23	2·95	14·90	1·46	0·61	0·14
December ...	156	0·26	3·59	4·79	4·37	7·80	20·81	4·12	1·11	0·33
Total, 10 months	550	1·93	42·98	86·06	21·39	46·79	199·15	27·07	5·15	1·66
Average per month	55	0·19	4·30	8·61	2·14	4·68	19·91	2·71	0·51	0·17

* No Return—Gauge removed temporarily.

An average of 19·91 metric tons of total solids per square kilometer per month is equivalent to almost *19 cwt. per acre per annum, or 612 tons per square mile.*

OFFENSIVE TRADES.

The following are the numbers and classes of offensive trades carried on within the City :—

Specified in Section 112, Public Health Act, 1875 — Blood Boiler (0), Bone Boilers (4), Fellmonger (0), Soap Boilers (2), Tallow Melter (0), Tripe Boilers, (8).

Declared by Local Authority, confirmed by Local Government Board (in accordance with Section 51, Public Health Acts Amendment Act, 1907). — Rag and Bone Dealers (25), Dealers in Hides and Skins (4), Dealer in blood or other putrescible animal products (1), Blood Dryer (0), Fat Melter or Fat Extractor (3), Glue and Size Makers (3), Gut Scrapers (3), Fish Friers (120).

This shows a reduction of 7 in the number of fried-fish shops, as compared with the previous year, 9 such businesses having been discontinued and 2 newly established).

The premises in question are systematically inspected, and any nuisance found immediately dealt with.

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES WERE SERVED DURING 1915.

Foul privies and ashpits (to replace with water-closets)...	Privies	19
	Ashpits	12
Defective "cell" privies in Benwell and Walker (to replace with water-closets)		55
Foul or defective ashpits not connected with privies (to remove and provide dust bins, or to provide doors and coverings)		275
Insufficient water-closet or privy accommodation (additional water-closets ordered)		19
Defective or insufficient dust bins (to provide new or additional) ..		1,392
Defective water-closets (to repair)		797
Water-closets without water supply (to provide water)		60
Choked water-closets (to cleanse—mostly served on tenants) ...		373
Dirty water-closets (to cleanse—all served on tenants)		234
Defective pail-closets (to repair, provide new pails, etc.)		53
Foul pail-closets (to replace with water-closets)		560
Dirty privies (to cleanse—all served on tenants)		30
Defective drains (to repair, or construct new drains)		348
Choked drains, etc. (to cleanse)		1,168
Defective or choked sinks, waste pipes, etc. (to repair or cleanse) ...		403
Want of scullery sinks		2
Defective or choked soil-pipes, vent shafts, etc. (to repair or cleanse)		31
Sink waste-pipes not trapped, etc.		93
Want of or defective pavement in yards and passages (to provide or repair)		260
Carried forward		6,184

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES WERE SERVED DURING 1915.—*Continued.*

Brought forward		6,184
Dirty rooms (to be cleansed)		99
Damp rooms		23
Overcrowding (to abate)		60
Dirty yards, passages, stairs, etc. (to cleanse)		503
Animals, pigeons, and fowls improperly kept		68
Offensive accumulations (to remove)		275
Accumulations of manure (to periodically remove)...		137
Want of or defective manure pits (to provide or repair)		17
Broken roofs and want of or defective or choked spouting (to repair, provide, or cleanse)...		368
Want of water (to provide supply)		147
Smoke nuisances (to abate)		7
Want of proper ventilation to rooms (including broken window cords in tenements)		92
Want of sufficient light to rooms (to provide additional means of) ...		4
Defective waste water-closets (to remove, and provide w.c's with flushing cisterns, etc.)		11
Defects in Council Schools	Defective drains (including want of or defective gully grates, and defective soil pipe)	5
	Choked drain	1
	Defective w.c's	5
	Waste-pipe connected directly with drain	1
	Rain-spouts choked or defective	4
	"Sparge" pipe to urinal out of order	1
	Foul ashpit	1
	Yard pavement defective	1
Structural defects in houses (broken plaster, floors, stairs, etc.) ...		257
Water supply to sinks, etc., derived from feed cisterns		14
Food manufactured or stored for sale under improper conditions ...		7
Bedding in dirty condition (to cleanse)		3
Insufficient means of drainage		1
Slop water or excreta thrown into privy pails, ash-tubs or dustbins...		23
Filth thrown on yards, streets, etc.		19
Sale of Ice-Cream	Premises in dirty condition	1
	Manufactured in sleeping apartment ...	1
Stables—Unsuitable or defective		1
Piggeries—Unsuitable or defective		1
Want of (or defective) under floor ventilation		10
Milk Shops—Milk stored for sale under improper conditions ...		3
Urinals, in connection with public houses, dirty, defective, or without adequate water supply		8
Bakehouses—Dirty condition of		14
Unclassified minor nuisances (to abate)		84
Total		8,461

This does not include defects found in the course of house-to-house inspection under The Housing, Town Planning, etc., Act, 1909. (See page 162.)

DETAILS RELATING TO CERTAIN WORKS CARRIED OUT IN THE ABATEMENT OF NUISANCES AND TO INSPECTIONS MADE DURING 1915.

Length (in yards) of old drains removed	1,938
,, ,, new ,, constructed	3,341
New trapped gullies provided to drains	374
Combined privies and ashpits removed { privies	*11
{ ashpits	*6
Cell-privies removed (in Benwell and Walker Districts)	61
Pail-closets removed	275
Defective water-closets removed (including waste-water closets, etc.)	66
Water-closets provided (in place of the foregoing privies and defective water-closets removed, also in 11 cases where the accommodation was previously insufficient)	424
Dry ashpits removed and replaced by galvanized iron dustbins ...	230
Dustbins substituted for dry ash-pits where water-closets existed, and provided in cases where pail-closets, &c., have been replaced by water-closets	‡689
No. of drains tested	835
No. of tests of above drains made by smoke and water	1,009
No. of inspections from complaints made at office (verbally or by letter)	1,320
No. of tenement inspections made	14,326
No. of contraventions of Tenement Bye-laws for which notices have been served to obtain remedy	§1,382
Inspections of houses made from complaints received outdoors or nuisances discovered in the districts, including a large number of minor nuisances, such as choked drains and dirty yards, the abatement of which was accomplished at the time of visit, and without legal notice	6,459
Inspections to learn if works ordered were in progress	10,903
Supervisions of work in progress	4,014
Common yards and courts in the worst localities specially visited on Friday afternoons and Saturday mornings to obtain weekly cleansing of same	25,974
Inspections after infectious disease	1,675
Inspections of milk shops and ice creameries	1,633
,, bakehouses	†830
,, offensive trades	729
,, wholesale margarine warehouses	38
,, as to limewashing of tenements	7,151
,, of schools	106
Inspections under the Housing, Town Planning, etc. Act, 1909 (see also page 162)	2,523
Inspections of Military Billeting Stations...	2,301

* Some ashpits have more than one privy attached.

‡ Free dust bins given by Corporation in each case.

§ In addition to this number, the District Inspectors have daily had premises cleansed on verbal order.

† Including 365 inspections made under the Factory and Workshop Acts by the Assistant Inspectors of Workshops.

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1915.

Nature of Complaint.	No. of Cases.	How disposed of.
Public Health Acts :—		
Defective drains	8	Drains repaired or relaid without the summonses being applied for.
Choked drains	2	Drains cleared without the summonses being applied for.
Defective waste-pipe	1	Waste-pipe renewed without the summons being applied for.
Accumulation of refuse	1	Refuse removed without the summons being applied for.
Manure on stable premises not removed as often as necessary	2	Manure subsequently removed without the summonses being applied for.
Public Health Act, 1875, Sec. 36, and Newcastle-upon-Tyne Improvement Act, 1892, Sec. 53 :—		
Houses without sufficient water closets, etc. (foul privies, to replace by water closets)	39	In 22 instances summonses were issued and afterwards withdrawn on the work being done and costs paid by defendants. In the remaining 17 cases the work was carried out without the summonses being applied for.
Newcastle-upon-Tyne Tramways and Improvement Act, 1899, Sec. 46 :—		
Want of water supply to dwelling-houses	2	Water supplied without the summonses being applied for.
Newcastle-upon-Tyne Corporation Act, 1911, Sec. 55 :—		
Want of proper dustbins for storage of house refuse	6	Dustbins provided without the summonses being applied for.
Carried forward ...	61	

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1915.—*(Continued).*

Nature of Complaint.	No. of Cases.	How disposed of.
Brought forward	61	
Bye-laws with respect to Common Lodging Houses :—		
Bed-clothes not washed as often as necessary and in the first week of March (Bye-law No. 8)	1	Two summonses issued against one person. Fined 10/- in each case.
Tenement Bye-laws :—		
Contravention of Bye-laws 4 and 6 (overcrowding)	1	Overcrowding abated without the summonses being applied for.
Contravention of Bye-law 12 (insufficient w.c. accommodation)	1	Additional w.c. provided without the summons being applied for.
Contravention of Bye-law 16 (w.c. structure and apparatus)	5	Work done without the summonses being applied for.
Contravention of Bye-law 32 (dirty room walls and ceilings)	1	Room cleansed without the summons being applied for.
Contravention of Bye-law 34 (want of water supply for domestic purposes)	2	Water supplied without the summonses being applied for.
Total ...	72	Amount of Penalties—£1.

HOUSING.

According to the census returns of 1911, there were in Newcastle 32,920 houses inhabited by 55,570 separate occupiers, with the high average of 8·13 persons per house.

Newcastle dwellings consist largely of "flats," an upstairs and a downstairs, with three to five rooms in each. The flats generally have separate entrances from the front street, and may either have separate yards, or one yard common to two flats, each having a distinct entrance to the yard.

32 per cent. of the housing accommodation in the City consists of one and two room holdings, in which live 28 per cent. of the population.

In the more ancient parts of the town, notably along the riverside, there is still a considerable amount of old property, mostly let in tenements. There are few "houses let in lodgings," dealings being practically always between landlord and occupier, without the intervention of any "tenant" as defined in the model bye-laws. The tenements in these houses are relatively low rented, single rooms ordinarily being let at an average of 2/- per week, two rooms at about 3/6, and three rooms at 4/3.

The City Engineer makes a quarterly return of empty houses in the City, and a perusal of these reports is instructive, as showing the growing scarcity of accommodation.

CENSUS OF EMPTY HOUSES, 1912-1915.

Date of Census ...	Nov., 1912.	Feb., 1913.	May, 1913.	Aug., 1913.	Nov., 1913.	Feb., 1914.	May, 1914.	Aug., 1914.	Nov., 1914.	Feb., 1915.	May, 1915	Aug., 1915.	Nov., 1915.
Self-Contained ...	306	311	270	253	172	170	141	137	108	99	100	80	82
Flats (each counted as a separate house)	903	775	609	291	185	121	64	75	74	21	16	8	4
House and Shop combined ...	68	79	53	58	64	32	38	29	29	32	15	11	4
Tenemented Houses	28	41	48	20	24	13	3	3	1	...	...	...	...
Doubtful if fit for occupation ...	58	61	48	43	49	51	68	63	66	66	67	76	60
TOTAL EMPTIES...	1,363	1,267	1,028	665	494	387	314	307	278	218	198	175	150

The details of the latest, the census taken on 23rd, 24th, and 25th May, 1916, show the ward distribution of the empty premises.

EMPTY HOUSES, MAY, 1916.

Ward.	Self-contained Houses	Flats.	Houses and Shops combined.	Tenemented Houses.	Doubtful if fit for habitation.	Total.
St. Nicholas' ...	...	...	...	...	...	...
All Saints' ...	...	...	...	...	...	...
St. Andrew's ...	5	...	...	...	...	5
St. Thomas' ...	30	2	...	...	...	32
Jesmond ...	27	...	...	...	...	27
St. John's ...	3	3	2	...	...	8
Stephenson ...	1	...	1	...	...	2
Armstrong ...	...	...	...	...	...	...
Elswick ...	5	...	...	...	...	5
Westgate ..	...	...	...	...	...	...
Arthur's Hill ...	2	...	...	...	...	2
Dene ...	4	...	...	...	...	4
Heaton ...	2	...	1	...	63	66
Byker ...	...	1	...	...	...	1
St. Lawrence ...	...	1	...	...	...	1
St. Anthony's ...	...	2	2	...	...	4
Benwell ...	...	...	...	...	...	...
Fenham ...	2	...	...	...	...	2
Walker ...	1	...	...	...	...	1
TOTAL ...	82	9	6	...	63	160

Thus, there is not a single empty house in St. Nicholas', All Saints', Armstrong, Westgate and Benwell, only one in Byker, St. Lawrence and Walker, two in Stephenson, Arthur's Hill and Fenham, four in St. Anthony's and Dene, and five in St. Andrew's and Elswick, all with the exception of Dene and and Fenham, almost entirely working-class wards, and it is in these very wards that there is most insanitary property, which, under present conditions, it is practically impossible to close, as existing tenants cannot get houses elsewhere.

To illustrate further this condition of house famine, one or two sample advertisements are selected at random from many scores of similar ones appearing daily in the local evening papers :—

Flat Wanted by young couple; three rooms; Newcastle, Heaton, or Byker; £1 offered.—Write Box E 52, Chronicle Office.

Flat, 3 or 4 rooms, Wanted; young couple, Heaton or West End; bonus given.—Write Box E 26, Chronicle Office.

Flat, or small self-contained House, Wanted in Newcastle or district; good bonus given.—Write Box H 46, Chronicle Office.

House, small or Flat Wanted, West End preferred; careful tenant; no family; bonus £5.—Write Box 271, Chronicle Office.

Flat, 5 or 6 rooms, Wanted, Heaton; **£10 bonus given.**—Write Box S 30, Chronicle Office.

Five Pounds Premium Offered for Flat or small Self-contained House in good district of Newcastle.—Address letters Box C 45, Chronicle Office.

Lady will give Bonus of £2 2s. to anyone who can find her a suitable unfurnished Flat, 3-roomed, downstairs preferred, in or near Newcastle, rent about 10s. per week —Write Box M 204, Chronicle Office.

Bonus (£3) given to anyone securing 3, 4 or 5 roomed House or Flat, if suitable; Benwell, Scotswood, or Lemington preferred; good references.—Write Box E 19, Chronicle Office.

Wanted, in fact, the barest necessities of accommodation, in return for which is offered a big bonus, a high rent, and guarantees against "incumbrances"! The appalling scarcity of last year is even greater now. In the occupied houses overcrowding is rife, but the inspectors are obliged to ignore this, unless particularly gross instances come under their notice. A difficulty of course always arises, in that there is no defined standard of healthy living conditions, so that for general purposes the extremely low minima of the Model Byelaws as to houses let in lodgings are adopted. Nor does the question of decency and separation of the sexes figure under the Public Health Acts, and this is a further difficulty. It has been practically impossible to effect closure of insanitary property, though much requires drastic treatment.

Subletting of rooms is common. In several instances cellars, long condemned and closed, were discovered to be in full occupation again, having been sublet as separate dwellings.

Effect of Bad Housing.—Reference has already been made to the effect of bad housing and overcrowding upon the public health. It is of interest to summarise some of the points. Speaking generally, the Wards with the highest

populations per acre have also the highest death rates. The converse does not always hold, as some wards, such as Walker, may have small densely packed areas scattered about among wide stretches of open space or farm land. The rates in these will be relatively high. But where the dwellings are evenly distributed and in good sanitary condition, and the population on area is low, the death rate is also low.

Thus the highest death rates from all causes are in St. John's, All Saints, Stephenson, Byker, Armstrong, Elswick, and St. Andrew's, and the lowest in Jesmond (which has little more than one-third of the rate in St. John's), Dene, St. Thomas', Fenham, and Heaton, which occupy respectively also the opposite ends of the scale in regard to quality of housing, and density of population (See Tables on pages 33 and 39).

Similarly infantile mortality follows the same rule, and the Wards with the highest wastage of child life are again the most crowded ones, viz.—Stephenson, with an infantile mortality rate of 196 deaths per 1,000 births, or practically one in five, St. Nicholas' 180, St. Johns' 170, St. Andrews' 165, All Saints' 161, and Armstrong 159.

Compare these with Jesmond 57, or little more than one quarter of Stephenson, Arthur's Hill 67, Dene 78, St. Thomas' 80, Fenham 85, and Heaton 96 deaths per 1000 births.

Over a period of eight years, the deaths per 1,000 births in 1 room, two room, and three room houses have been respectively 145, 119 and 110, and last year were 197, 167 and 113.

In the case of tuberculosis one sees again the influence of congestion and bad houses in the fact that the highest incidence for the year was in St. John's, All Saints, Stephenson, Armstrong, Benwell, St. Andrew's, and Byker, the death

rates in these wards all exceeding 2 per 1,000, the average for the City being 1·9, while the lowest incidence occurred in St. Thomas', Jesmond, Heaton, Dene and Fenham.

Again, 28 per cent. of the population live in one and two room houses, yet over 35 per cent. of the deaths from consumption were among these.

And with this dearth of dwellings, what has been or what is being done? In 1915 practically nothing (see later, page 164), while in the present year (1916) the two small Corporation schemes in St. Lawrence Square and City Road have been completed and provide homes for 167 tenants only, while a big scheme at Walker, that might have made a perceptible difference, has collapsed, in spite of the offer of financial support from the Government.

In the present year also, a scheme of temporary or semi-permanent artisan houses of excellent design is being carried out at the extreme west end of the City, by the ministry of Munitions. It is intended to erect some 600 of these dwellings, but it is too early yet to express any opinion upon the results.

It is a question whether or not the ultimate solution of the difficulty of housing the working classes may not be found in some such system as this—semi-permanent, or even temporary houses of roomy design, upon permanent foundations, with ample open space about them, and with permanent roads and permanent sewers and drains. Then when old age and decay set in, there would only be the superstructure to renew, the design of which could be modified in accordance with hygienic advancements, while the relatively costly permanent items would merely require to be kept in good repair.

In any case the emergency scheme of the ministry of Munitions is a most valuable experiment, and merits the closest attention.

As will have been noticed previously (page 149), closet conversion has fallen off considerably, as has also, since war broke out, the number of nuisances dealt with by notice and

otherwise, due, not to any lessening of the need for this work, but chiefly to lack of labour, and to the high price of building materials.

Statements of houses closed, demolished, or otherwise converted, and of new houses built during the year 1915, follow.

The Housing, Town Planning, etc., Act, 1909.

The house to house inspection which was being carried out under this Act has been relaxed owing to the war. This accounts for the falling off in the following numbers of inspections made, etc., as compared with the previous year.

HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

Number of dwelling-houses inspected under and for the purposes of Section 17 of the Act of 1909	583‡
Number of dwelling-houses which, on inspection, were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	331
Number of representations made to the Local Authority with a view to the making of closing orders	— *
Number of closing orders made	— *
Number of dwelling-houses the defects in which were remedied without the making of closing orders	105
Number of dwelling-houses which, after the making of closing orders were put into a fit state for human habitation	— *
Under consideration, or in course of repair	226

‡ NOTE.—In this return each *holding* is counted as a separate house.

* Action for closure is taken under local powers, details of the houses thus dealt with being set out on p. 163.

The general character of defects found consisted of insufficient light and ventilation, dampness, external and internal disrepair (defective roofs, spouting, broken plaster, and defective floors, walls, windows, fireplaces, etc., insufficient closet accommodation, conveniences out of order, yards or passages not properly paved, want of or defective receptacles for storage of house refuse, etc).

Houses dealt with under the Newcastle-upon-Tyne Improvement Act, 1882, Section 32.

The following dwellings, reported to Committee by the Medical Officer of Health, were dealt with as shown :—

Closed— TENEMENTS.	No. of Houses.	No. of Holdings.	Tenants Displaced.
Enfield Lodge, Elswick Road	1	1	1
21, Silver Street (ground floor)	1	1	1
7, 8, Tuthill Stairs	2	4	4
Stott's House Farm	1	2	2
62, 64, Close	1	1	1
2, 3, 5, 6, 7, 11, Trotter's Yard, Close ...	5	7	7
Closing Order made, but still occupied—			
8, 9, 10, Trotter's Yard	3	4	4
5, Trotter's Yard (kitchen only)	1	1	—
21, Silver Street	—	1	1
Nothing done—			
894, Shields Road	1	3	—
Closed— CELLARS.			
104, Blenheim Street	1	1	1
Total ...	17	26	22

In addition to the above, preliminary steps for the closure of the block of property at College Yard, Tuthill Stairs, and No. 4, Tuthill Stairs (17 houses, 27 holdings), were taken early in the year. Owing to the lack of housing accommodation in the City, however, the Committee decided that action should be indefinitely postponed.

The following properties, proceedings in connection with which were not completed at the close of 1914, were further dealt with as follows :—

Closed—

The Cottage, Ellison Place, St. Anthony's.
2, Percy Court (attics).
8, Factory Yard.
31, Copland Terrace (cellar).

Alterations or repairs completed—

Crozier's Buildings, St. Ann Street.
43, 43a, St. Ann Street.
3, Factory Yard.

Nothing done—

6, Ropery Walk, and 1, Pottery Bank.
Bank Top House.
Boatlanding.
Riverside House.
Old Farm, Union Road.
Condercum Cottages.

Houses Demolished or otherwise Converted. — 2 tenemented houses (5 holdings) and 1 self-contained house have been converted into business premises, or demolished for shipyard extension, and so ceased to be used as dwellings. These are in addition to the number closed as unfit for habitation.

Houses built during the Year 1915.—The following return of houses built during the year under report is supplied through the courtesy of the City Engineer :—

Ward.	Houses Self-contained.	Houses of Two Flats each.
St. Nicholas'	—	—
St. Thomas'	—	—
St. John's	—	—
Stephenson	—	—
Armstrong	—	—
Elswick	2	—
Westgate	1	1
Arthur's Hill	—	—
Benwell	6	—
Fenham	17	—
All Saints'	—	—
St. Andrew's	1	—
Jesmond	17	—
Dene	28	—
Heaton	—	—
Byker	—	—
St. Lawrence	—	—
St. Anthony's	1	5
Walker	53	—
Total	126	6

New accommodation has thus been provided for 138 families, or at the rate of 5 persons to a family, 690 persons, as compared with accommodation estimated for 545 persons provided during 1914, and 555 during 1913, *while 22 families*, or 110 persons, *have been unhoused.*

Tenement Bye-laws.—The number of tenemented houses in the City is 3,527, containing 9,978 holdings, as follows :—

1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms.	Total.
3,330	5,464	1,069	114	1	9,978

Tenement dwellings occupied by large numbers of separate tenants, and those where the occupants are known to be of the careless or negligent class, have been regularly inspected, and the requirements of the Bye-laws found to be fairly well complied with. What may be called the better class tenements, many of which are occupied by two tenants only and are practically "flats," do not demand, as a rule, such constant supervision as the former, comparatively little trouble being experienced in their inspection and sanitary control.

The question of overcrowding has again engaged special attention. Speaking generally, the tenement holdings have been fully occupied throughout the year, there having been a considerable demand for houses, particularly by persons employed on work in connection with the war. Many of the houses have been found to be occupied to the full extent of the minimum cubic capacity prescribed by the Tenemented House Bye-laws, whilst a few cases of actual overcrowding have been found and dealt with.

The Bye-law requiring the limewashing, twice a year, of tenement yards, passages, etc., always involves a large amount of labour on the part of the Health Department officers, and, during the year under report, increased difficulty has been experienced in getting the work carried out, the landlords pleading shortage of labour in most cases.

7,151 visits were made in connection with the enforcement of this Bye-law alone. Although the carrying out of the limewashing was in certain cases somewhat delayed, it is satisfactory to state that this was ultimately accomplished without having recourse to legal proceedings in any instance, the usual circular letters of reminder being issued to all owners of this class of property, together with personal interviews, etc., where necessary.

Customs and Inland Revenue Act, 1890, Sec. 26 (2).—Applications, respecting 5 houses, for certificates entitling the owners to exemption from inhabited house duty were made to the Medical Officer of Health during the year. The certificate was granted in three cases.

New Buildings and Sanitary Alterations.—180 plans were examined by the Medical Officer of Health before their submission to the Town Improvement and Streets Committee and 1 plan for minor sanitary works has been examined and approved or otherwise by the Medical Officer of Health, and forwarded to the City Engineer for his consideration, as compared with 55 during the previous year.

COMMON LODGING HOUSES.

The number of registered common lodging houses in the City at the end of the year was 62, as against 61 in 1914.

In accordance with the requirements of the Newcastle-upon-Tyne Corporation Act, 1911, applications were received, at the beginning of 1915, for the re-registration of 61 of these houses, all of which were registered as desired, up to the end of the year.

An application was also received in respect of a house formerly in use as a common lodging house, the registration of which was declined by the Sanitary Committee during the previous year, owing to the unsatisfactory manner in which the house had been conducted by the then keeper. The present application, from a different person was granted.

The houses generally have been well conducted, and those situate in the vicinity of munition works have been occupied almost to the full extent of their accommodation.

The total number of lodgers for which the houses were registered was, at the close of the year, 2,182, as against 2,164 at the end of 1914. The average number of lodgers per night was 1,804, the highest and lowest numbers on any one night being 1,939 and 1,546 respectively.

The Assistant Inspectors of Common Lodging Houses also obtain samples of water and milk for bacteriological examination, and collected 192 of the former and 387 of the latter during the year. These officers also take smoke observations, and assist the Food and Drugs and District Inspectors when required.

REGISTERED COMMON LODGING HOUSES.

Summary of Work Done and Visits Made during the Year 1915.

Number of Houses on the register at the end of the year ...	62
Applications for registration (all granted)	62
Existing houses re-registered (Newcastle Coporation Act, 1911, Sec. 63)	61
New houses registered	1
Inspections made in the day-time	10,521
,, ,, night-time	666
Notices served { *re* washing of bed clothes 246; ,, limewashing of houses 123 } ...	369
Contravention of Bye-laws, &c. :—	
Removal of liquid filth from rooms	1
Bedclothes not properly "aired" during prescribed hours	1
Beds and bedding dirty or defective	38
Structural defects in houses	47
Defective water-closets and drains	28
Choked drains, water-closets, &c.	14
Defective roofs and choked or defective spouting ...	13
Defective or choked sinks, waste pipes, &c.... ...	2
Want of or defective dustbins	3
Dampness	1
Insufficient ventilation to rooms (broken window cords, &c.)	9
Unclassified	5
Number of Prosecutions	1
Deaths reported (non-infectious disease)	4
Cases of infectious disease reported (including 34 of tuberculosis)	37

Lodgers Occupying Common Lodging Houses in the City during the Year 1915.

	Year 1915.	Corresponding Nos. for Year 1914.
Average number of Lodgers per night	1,804	1,681
Highest number on any one night	1,939	1,845
Lowest ,, ,, ,, ...	1,546	1,502
Number of Lodgers for whom accommodation was provided in the Common Lodging Houses of the City at the end of the year	2,182	2,164

FACTORIES AND WORKSHOPS.

FACTORY AND WORKSHOP ACTS.—There are on the Register 1,277 workshops, besides a large number of domestic workshops, workplaces, laundries, and bakehouses.

Particulars as to the number and nature of the various trades carried on, the number of inspections made, defects found, out-workers, &c., are given in the following Tables.

It may be observed that there has been a falling off in the number of inspections, etc. (Table I).

This has been occasioned by one of the two assistant inspectors who ordinarily carry out this work being engaged on special duty in connection with the inspection of military billets, etc.

During the year, 71 lists of outworkers have been received, 24 employers having sent in lists twice, and 23 employers once.

Included in the lists so received, were 23 names and addresses of out-workers employed in districts outside the City. These were duly forwarded to the respective districts, as required by law. In one case an outworker, working in Newcastle, but employed by a firm outside the City, was notified by the Sanitary Authority of the district in question.

23 notices as to insanitary conditions in factories and workshops have been received from H.M. Inspectors of Factories. 9 of these related to factories, and 14 to workshops. The matters referred to were duly investigated and dealt with by service of notice, &c., the results being reported to the Inspectors of Factories as required by the Act.

ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN CONNECTION WITH FACTORIES, WORKSHOPS, WORKPLACES AND HOMEWORK, DURING THE YEAR 1915.

Home Office Tables.

1.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

PREMISES. (1)	NUMBER OF		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories ... ... (Including Factory Laundries.)	83	289	—
Workshops ... ... (Including Workshop Laundries.)	3,865		
Workplaces ... ... (Other than Outworkers' premises included in Part 3 of this Report.)	457		
Total	4,405	289	—

2.—DEFECTS FOUND.

PARTICULARS. (1)	NUMBER OF DEFECTS.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
*Nuisances under the Public Health Acts:—**				
Want of cleanliness	95	95	1	—
Want of ventilation	5	5	—	—
Overcrowding	4	4	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	82	81	3	—
†Sanitary accommodation — insufficient	2	2	—	—
†Sanitary accommodation — unsuitable or defective	11	10	2	—
†Sanitary accommodation — not separate for sexes	5	3	—	—
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (s. 101)	1	1	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	20	19	—	—
Other offences ... ... (Excluding offences relating to outwork which are included in Part 3 of this Report.)	—	—	—	—
Total	225	220	6‡	—

* Including those specified in sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Sec. 22 of the Public Health Acts Amendment Act, 1890, is in force. The standard fixed by the Sanitary Accommodation Order (No. 89) of 4th February, 1903, is followed as a model.

‡ Relating to Factories.

FACTORY AND WORKSHOP ACTS.—*Continued.*

3.—HOME WORK.

Nature of Work.	Outworkers' Lists, Section 107.									Outwork in Unwholesome Premises, Section 108.			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending Lists.	Prosecutions.							
	Twice in the Year.			Once in the Year.				Failing to keep, or permit inspection of Lists.	Failing to send Lists.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (Section 110.)	Prosecutions (Sections 109, 110.)
	Lists.†	Outworkers.†		Lists.	Outworkers.										
		Contractors	Workmen.		Contractors	Workmen.									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing Apparel, Making, &c. ...	44	9	139	23	10	45	§ 36	§ Nil.	§ Nil.	2	* 2	Nil.	Nil.	Nil.	Nil.
Paper Bags, etc.	2	...	13	...	...	...	...	...	...	...	...	...	...	...	...
Brush Making	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Total	48	9	154	23	10	45	36	...	...	2	2	...	...	...	...

NOTES.—† The figures in columns (2), (3), and (4) are the *total* number of lists (received from employers who sent them both in February and August as required by the Act) and of the entries of names of outworkers in those lists. They are, therefore, double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name is often repeated.

Columns (3), (4), (6), and (7)—Employers seldom state whether their Outworkers are "Contractors" or "Workmen," hence the numbers given above may not be properly divided.

§ In 30 of these cases the lists of outworkers were not received in the month of February or August as required by the Act, but in every such case they were subsequently received on the employers being reminded of their default. In the remaining 6 instances (of failing to keep or permit inspection of lists of outworkers) notice was also given and complied with.

* In each case the Notice was served upon the *Outworker*, and was duly complied with.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Workshops	1,277
Domestic Workshops	150
Workplaces	245
Laundries	45
Bakehouses	251
Total ...	1,968

5.—OTHER MATTERS.

Class. (1)		Number. (2)
Matters notified to H.M. Inspector of Factories:—		
Failure to affix Abstract of the Factory and Workshop Act (sec. 133)		14
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5).	Notified by H.M. Inspectors ...	23
	Reports (of action taken) sent to H.M. Inspectors	23
Other:—		
Underground Bakehouses (s. 101):—		
Certificates granted during the year		—
In use at the end of the year		12

6.—TRADES.

Particulars as to the number and nature of the various trades carried on in the workshops of the City.

Trades.	Workshops.	Domestic workshops (including domestic bakehouses and laundries).	Workplaces.
Ærated Water Manufacturers, Beer bottling, etc.	7	...	18
Artificial Stone, Asphalte, Bitumen Solution, Enamel and Cement making	5	...	...
Athletic Outfitters...	3	...	...
Bacon Washing	10	...	...
Bags, Baskets, Trunks, Brushes (making and repairing)	14	1	...
Bakehouses	67	184	...
Bouquets and Wreath making	13	...	8
Bedsteads, Bedding and Mattress making ...	17	1	...
Bicycle making and repairing	7	1	...
Blacksmiths and Locksmiths	54	...	...
Boat Building	3	...	...
Carried forward ...	200	187	26

6.—TRADES.—*continued.*

TRADES.	Work-shops.	Domestic workshops (including domestic bake-houses and laundries).	Work-places.
Brought forward ...	200	187	26
Boots, Shoes, Slippers (making and repairing)	124	28	—
Carts, Carriages, Coaches, Barrows (making and repairing)...	22	—	6
Carpets, Canvas, Water Proof Cover making...	7	—	—
Chemical Works	4	—	—
Confectionery making	11	—	—
Coopers	3	—	—
Cork Cutters	2	—	—
Currants and other Fruit packing and cleaning	4	—	—
Cigarette making and Pipe making and repairing	3	—	—
Dressmaking, Milliners, and Mantle Makers ...	204	47	—
Drysalters	7	—	—
Engravers	2	—	—
Engineers, Electric Heating and Cooking, etc.	37	—	1
Firewood Cutting and Firelighter Makers ...	4	—	—
Fish Curers	2	—	—
Furniture, Automatic Seats, French Polishing and Upholstery	52	7	—
Grain, Ice, Meat, Onions, Oil, packing and storage	24	—	25
Harness making and repairing	12	—	—
Hide and Skin Dealers	—	—	4
Instruments—Mathematical, Musical, etc. (making and repairing)...	6	—	—
Jewellery, Watches, Clocks, (making and repairing)	55	—	—
Joiners, Handrailers, Ladder Makers, and Wood Carvers and Turners	70	—	—
Lamp Making and repairing	1	—	—
Laundries	32	13	—
Marble Masons and Monumental Sculptors ...	9	—	—
Marine Stores	15	—	27
Miscellaneous Warehouses and Workshops, (which include repairing umbrellas and guns, preparing cattle food and medicine, dressing leather, packing eggs, lard rendering and gut scraping)	17	1	32
Painters' Workshops, and making and bottling Paint and Varnish	33	—	—
Photographers	24	1	—
Pickle and Sauce making	6	—	—
Picture Framers and Gilders	11	—	—
Plasterers, Lath rendering...	3	—	—
Plumbers, Gas Fitters and making and repairing Sanitary Pipes and Fittings... ...	36	—	1
Restaurant kitchens	21	—	82
Rubber Stamps and Tyres (making and repairing)	3	—	—
Carried forward ...	1,066	284	204

6.—TRADES—*Continued.*

TRADES.	Work-shops.	Domestic workshops (including domestic bake-houses and laundries).	Work-places.
Brought forward ...	1,066	284	204
Scales, Weighing Machines and Sewing Machines (making and repairing) ...	8	...	...
Sign Boards, Sun and Venetian Blind (making and repairing)...	4	...	...
Stained Glass making	5	...	...
Stables (Livery, etc.)	10	...	30
Tailors	194	36	...
Taxidermists, Fur pulling and cleaning ...	7	...	...
Tea Blending and Packing	5	...	...
Ticket Writers	9	1	6
Timber Yards	6	...	5
Tin, Iron Plate and Wire Workers	11	1	...
Tripe Dressers	4	...	...
Typewriting Machines (repairing)	4	...	...
Underclothing (making)	43	25	...
Totals	1,376	347	245

COUNCIL SCHOOLS.

Sanitary Inspection of Council Schools.—106 inspections of these schools have been made during the year. At 9 schools, insanitary conditions were found. (For particulars see page 153). The matters in question were duly reported to the school authorities.

THE RAG FLOCK ACT, 1911.

In pursuance of this Act, 9 samples of rag flock have been purchased and submitted for analysis to the Public Analyst. Three of these did not conform to the standard of cleanliness laid down by the Local Government Board in their Regulations under the Act, and the consequent action taken is shown in the following table.